

Music and Performance Space Design

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Ospedale della Pieta

Antonio Vivaldi

Antonio Vivaldi was born in Venice on March 4, 1678 and died in July of 1741. He was a priest, musician, composer, conductor, and teacher. Vivaldi is most famous for composing concertos (Talbot). It is unknown if Vivaldi invented the concerto, but he was the most influential composer that developed it (Rosand).

Vivaldi and the Ospedale della Pieta

Vivaldi got his first job at the Ospedale as a violin teacher in September 1703. Later, he introduced other string and band instruments into the curriculum. The Ospedale paid him 60 ducats a year, or about \$4,800. The Ospedale was “one of four Venetian institutions devoted to the care of orphaned, abandoned and indigent children and specialized in the musical training of those among the girls who showed aptitude” (Talbot). In 1709, Vivaldi lost his job here due to the bad economy. While he was gone, the orchestra continued under the instruction of girls at the top of their class. Meanwhile, the Ospedale’s orchestra gained popularity in the community and started teaching students from outside of the orphanage (Talbot).

Vivaldi returned to the Ospedale from 1711 until March 1716. Vivaldi was promoted to composer and began writing works meant to be performed specifically by these students (Talbot). He liked writing pieces, mainly concertos, where each instrument could be showcased or have a solo in order to show off the wide range of instruments offered at the Ospedale (Rosand). These concertos were also meant to showcase the proficiency and talents unique to the individual or small group. Sometimes, he even named the pieces after the student that would be performing them. One of the most elaborate pieces he composed for the Ospedale was *Juditha triumphans*, “which contained patriotic references to Venice’s war against the Turks” (Talbot).

In 1723, Vivaldi made a deal with the Ospedale governing board agreeing to conduct rehearsals when he was in town in exchange for the board purchasing two concertos a month. Vivaldi wrote 472 musical works in his lifetime with over 300 of those pieces written specifically for the Ospedale (Rosand). The Ospedale della Pieta was the “site of [Vivaldi’s] most sustained and remarkable achievement” (Rosand).

Music at the Ospedale della Pieta

The Ospedale della Pieta, located on the Riva degli Schiavoni, was one of four institutions, the others named Incurabili, Derelitti, Mendicanti. These government-run institutions functioned as orphanages, schools, and hospitals. The boys were taught trades, such as woodworking, shipbuilding, and printing. The girls were taught sewing, embroidery, lace making, and music. They had a chapel choir and orchestra which was meant to build moral and religious character. Performances occurred on the weekends, holidays, and for special occasions. The four institutions competed with one another in terms of performance level but occasionally combined into a single group to perform for a special event. Thanks to Vivaldi, the Ospedale della Pieta’s music program was the best due to its high quality of instrumental performance and variety of instruments. The instruments offered included flute, organ, oboe, cello, bassoon, viola, violin, clarinet, lute, mandolin, chalumeau, clavicembalo, corno di caccia, and timpani (Rosand).

The music performed at the Ospedale della Pieta rivaled and even surpassed performances at the opera. Similarities between the Ospedale and the opera include international audiences, “support of the government and patrician patronage,” and connecting politics and art. Both venues performed Vivaldi’s concertos, however the importance of his work at these two places varied. At the opera, his concerto was just one of many acts performed that night. In contrast, at the Ospedale, his concerto was the main event (Rosand).

The main performance space at the Ospedale was located over the main altar in the church. In the 18th century, it became apparent that its musical facilities were “woefully inadequate” (Rosand). During this time, other ospedali churches were being rebuilt and adding

special music rooms. In 1723-1724, the Pieta added a small choirloft (coretti) to either side of the existing choirloft to increase space. The spaces were veiled by “gilded iron grillwork” which hid the performers from view. Openings were made where the new choirloft connected to the old choirloft in order to provide the musicians with a view of the conductor. However, this improvement to the choirloft was not enough (Rosand).

In 1727, the entire facility was reconstructed by architect Giorgio Massari. Giambattista Tiepolo was commissioned to paint frescoes. One of his frescos titled “Coronation of the Virgin” reflected Vivaldi’s impact at the Ospedale because the painting included 11 instruments that students played at the Pieta. Even after Vivaldi’s time here, the showcasing of multiple instruments present in his compositions became a part of the building’s history. The new facility was completed in 1760 and aimed to facilitate both vocal and instrumental performances. “Singing galleries were constructed on either side of the nave” (Rosand). The balconies where the students would perform from were “screened by iron gratings that obscured them from the view of their audience. This was a source of some amazement – as well as dismay – on the part of numerous visitors” (Rosand). The Ospedale wanted to hide the performers from view in order to preserve modesty. This also caused the music to be presented in a new way. It allowed audience members to hear the music in an unbiased, aural manner, leaving most of the interpretation up to individual imagination. Instead of paying attention to what the performers looked like, all of the focus was placed on the music. The following is an excerpt from “Vivaldi’s Stage”:

“With the performers barely visible, the music reached the audience’s ears as pure, disembodied sound; the bodies of the girls who produced these marvelous sounds had to be imagined, but the act of imagination was very much part of the theatrical effect. It is important to emphasize that the impression made by Vivaldi’s concertos was almost exclusively aural—reinforced, undoubtedly, by the power of suggestion, by the very idea that girls were producing these marvelous sounds.... actively engage the ears of his audience” (Rosand).

Sometimes the performance would consist of two string orchestras playing together. Vivaldi composed pieces where these two orchestras talked back and forth with each other and traded off parts. Since audience members could not see the performers, this back and forth conversation created a surprising listening experience where people didn't know where or when expect the music (Rosand).

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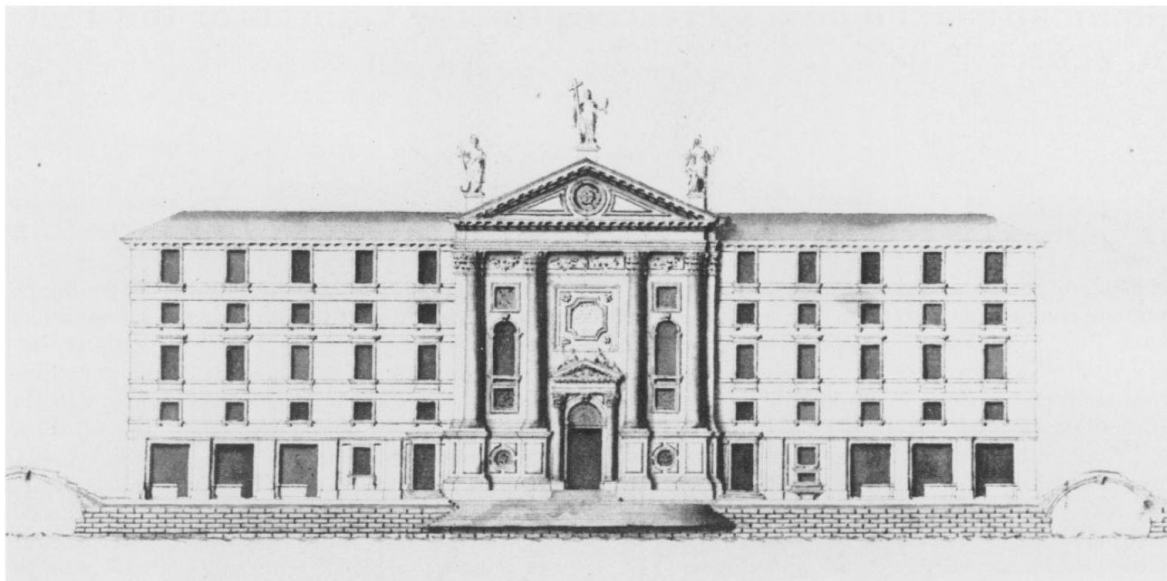


Fig. 1. Facade project for the hospital of the Pietà in Venice, by Giorgio Massari, 1736 (Museo Correr, Venice).

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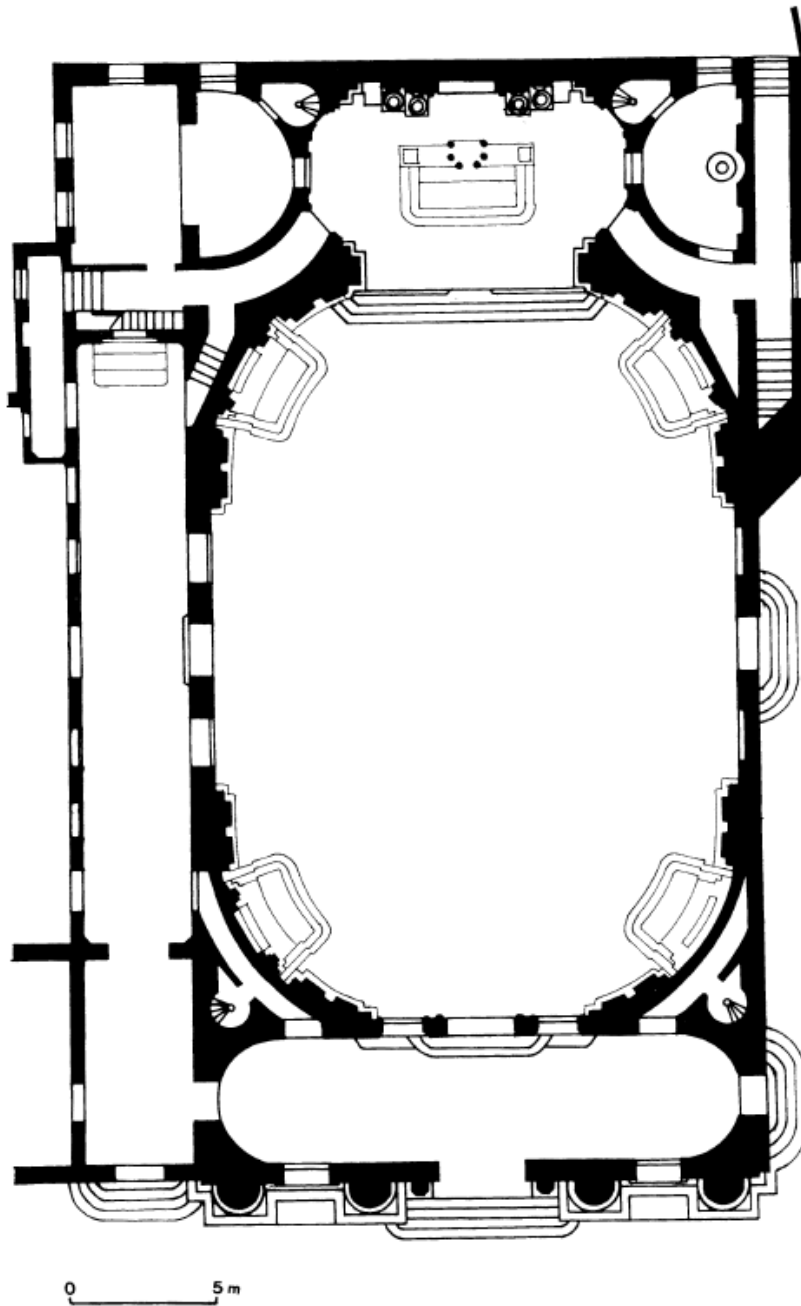


Fig. 2. Plan of the church of the Pietà (Santa Maria della Visitazione) in Venice, by Giorgio Massari, 1745–60 (After A. Massari).

Howard, Deborah. "Giambattista Tiepolo's Frescoes for the Church of the Pietà in Venice." *Oxford Art Journal* 9.1 (1986): 11-28. JSTOR. Web. 19 Feb. 2015.



Fig. 3. Interior of the church of the Pietà, since recent restoration, showing the positions of the three frescoes by Giambattista Tiepolo: Coronation of the Virgin, nave ceiling; Triumph of Faith, chancel ceiling; and David and the Angel, grisaille tondo above high altar.



Fig. 4. Coronation of the Virgin, by Giambattista Tiepolo, nave ceiling fresco, c.320 × 200 cm, church of the Pietà Venice, 1754-55.

Howard, Deborah. "Giambattista Tiepolo's Frescoes for the Church of the Pietà in Venice." *Oxford Art Journal* 9.1 (1986): 11-28. JSTOR. Web. 19 Feb. 2015.



Fig. 12. Detail of Fig. 4, showing angel musicians.

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della Pietà

Musicians were hidden from the audience behind a screen.

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Teatro La Fenice

During the late 1700s and early 1800s, Venice was a place of “theatrical experiment,” performing drama giocoso, opera seria, one-act farsa, opera buffa, as well as the traditional comic opera (Giulio Ongaro). Typical Italian theater characteristics during this time included a close spectator view and closed boxes. The closed boxes provided comfort and privacy, making “each box a miniature home” (The History). The boxes allowed for a variety of group size and were a place where patrons could eat, play, or recreate, as well as watch the show.

Architects from around the world competed for the project to design Teatro La Fenice. The requirements for the design included five tiers of boxes (pepiano) with at least 35 boxes in each tier. It was suggested to include “small loggias” which were customary in Italian theaters. The winning design had to balance visibility with acoustics. Since there was a great risk of fire due to wood and lights, preference was given to the design that reduced the chance of fire. Preference was also given to designs that considered stage hands, workers, and spectators, ultimately increasing the “comfort and tranquility of the spectators” (The History). Petro Bianchi, the public’s favorite design, won the competition and award money. However, his building was never constructed due to statics issues. As a result, Selva won the commission. His design was influenced by the Teatro Valle in Rome and the Teatro della Scala in Milan. His design included fresco panels on the interior and exterior, as well as intricate ceiling ornamentation and pattern (The History).

Construction began on the new theater in April 1790. Throughout the building process, there was resistance from the community. The community felt like Teatro La Fenice was unnecessary and a waste of money because the Theatre of San Beneto already existed.

Teatro La Fenice opened on May 16, 1792 with a performance of “giuochi d'Agrigento di Alessandro Pepoli, musica di Giovanni Paisiello” (Archivio Storico Teatro La Fenice). This theater was built for comedies, operas, ballets, drama, and musical performances. It is located along the Rio Menuo river. As a result, people usually arrived to the theater by gondola.

However, this method of transportation decreased and became obsolete over time. Selva created a defined front of the building without using a temple front. The foyer included frescoes and stuccowork. “An imposing staircase rose to the upper floor where the various social rooms were situated, including the ballroom, whose walls, divided by Corinthian pilaster-strips, were hung with large mirrors” (The History). There was a severe austerity in decoration throughout the theater that can be described as follows, “[The decoration] has all the requisites necessary to make an effect; clarity of tints, harmony, solidity and lightness, things that are difficult to combine, and which are wonderfully united in this work” (The History).

Inside the performance area, paintings on the vaulted ceiling made it seem higher than it really was. The painting of the sky was so realistic that the theater actually appeared to be open to the air. The main color used throughout was gold, creating an elegant and luxurious atmosphere. There were 174 boxes, all purposely designed to be equal in size. The boxes had high quality arabesque and relief. Parapets made a frieze around each tier of boxes instead of individual boxes. The opening of the stage was framed by an architrave and two pilasters. This created a picture frame that separated the stage from the audience. There were two different stage curtains used. One curtain was used at the beginning and end of the show and the other curtain used in between acts. These curtains were beautifully painted, depicting settings and creating an illusion (The History).

The arrival of Napoleon in 1808 altered the interior design of the theater. The color scheme changed from gold to blue and silver to match the popular Imperial style. In addition, the uniformity in tiered boxes was destroyed. A special box for Napoleon was created that was the size of six normal boxes combined. It was decorated with gold, velvet, tassels, and fringe. This special box was supposed to be temporary but eventually became permanent, creating a new focal point within the theater (The History).

In 1828, the theater was restored due to normal wear and tear. Smoke from the oil lamps inside the building had a negative effect on appearance and attempts to amend this aesthetic blemish were undertaken. In addition, an extravagant chandelier was installed inside the auditorium (The History). On July 23, 1935, the theater changed from private to public

ownership. The original owners gave their shares to the municipality of Venice. The theater is currently managed by the Fondazione Teatro La Fenice (Presentation).

The First Fire

Teatro La Fenice burned down on December 13, 1836 due to a stove fire. The theater burned for three days. The reconstruction of the building adhered to the baroque/rococo style and resulted in improved acoustics and visibility. The pilasters supporting the balconies were moved further back which allowed for audience members to get a better view of the stage. It also enabled patrons to see each other better, resulting in more women showing off their clothes and wealth from their seats. The previous stucco work was reconstructed. The original frescoes were replaced with “mirrors and marble work that brought out the architecture” (The History). The reconstruction also led to increased functionality of the theater. The building became more than just a theater, also providing the ability to host musical academies and balls in an extravagant event space. A description of the revived theater follows:

“Evoking an imaginary 18th century, the Theatre newly restored by Meduna harked back to the myth of a happy and forever departed age, when Venice was still a great city of art and culture. Thus the rich auditorium of the Theatre could give the spectator the momentary illusion of reliving that glorious past, allowing him to escape from the reality of the profound crisis and decline that the city was in fact dramatically experiencing. The Theatre that was inaugurated in December 1854 was practically the same as the one that was destroyed in the recent fire” (The History).

The Second Fire

Unfortunately, there was another fire on January 29, 1996. The theater reopened its doors in November 2004 with a performance of Verdi’s “La Traviata,” which was first performed here in 1853 (The History). The new theater can accommodate 98 orchestra members, 66 chorus members, and 1000 audience members (Presentation). A new

performance space for chamber concerts and conferences was added that has the same acoustics as the main theater. This room can be separately accessed and can function simultaneously with the main theater. This new performance space is an “important activity center” that serves the city (The History).

The burning down and rebuilding of this iconic and influential theater in Venice has become a symbol of Italian culture. The motto of Teatro La Fenice is: “The way it was, where it was.” The theater represents Venice’s ability to overcome adversity and recover from unexpected unfortunate events. It proves that Venice is adaptable, resilient, and can rise again even stronger than before (The History).

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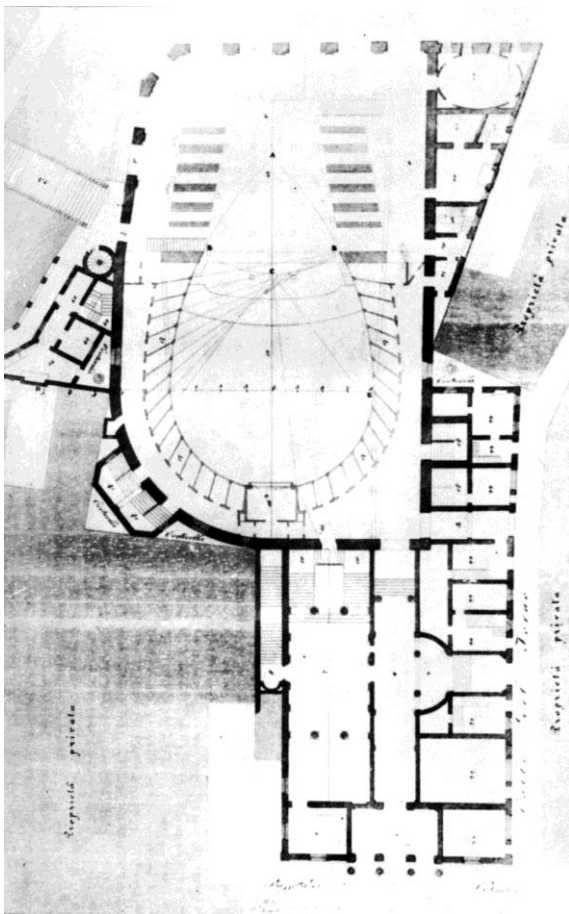
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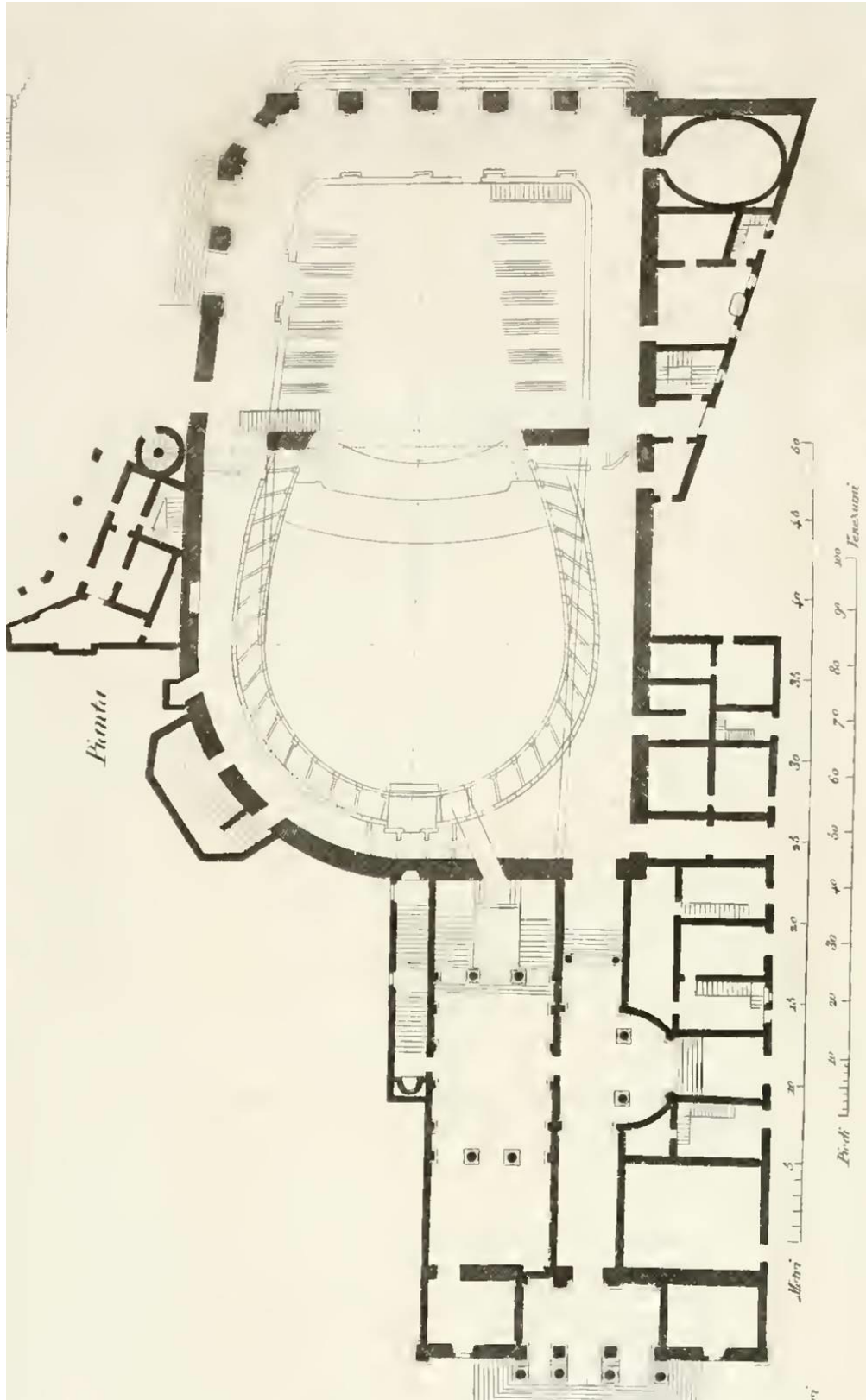


1790 wood model by Selva

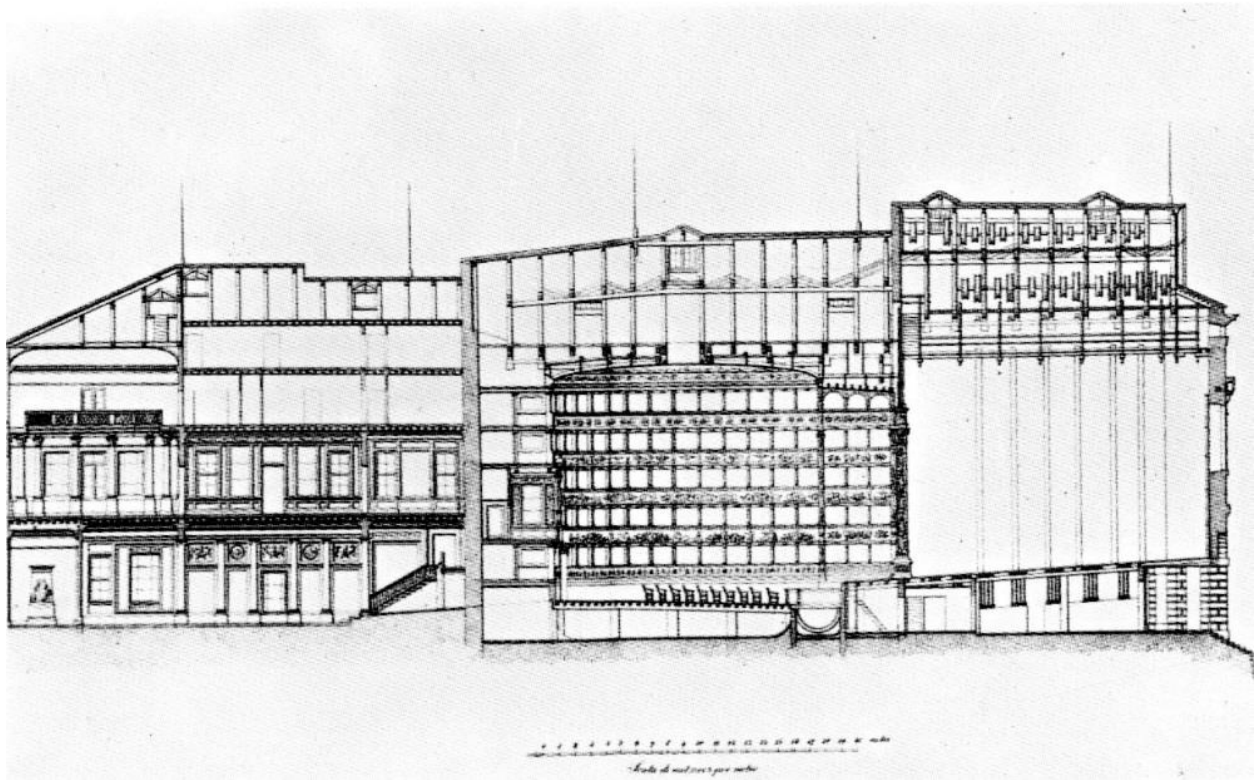
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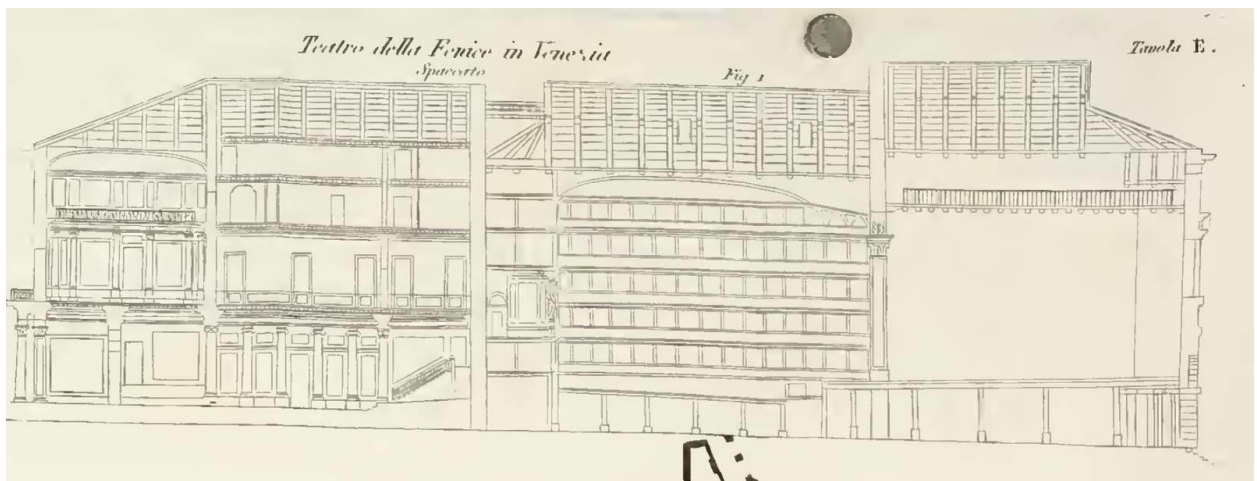
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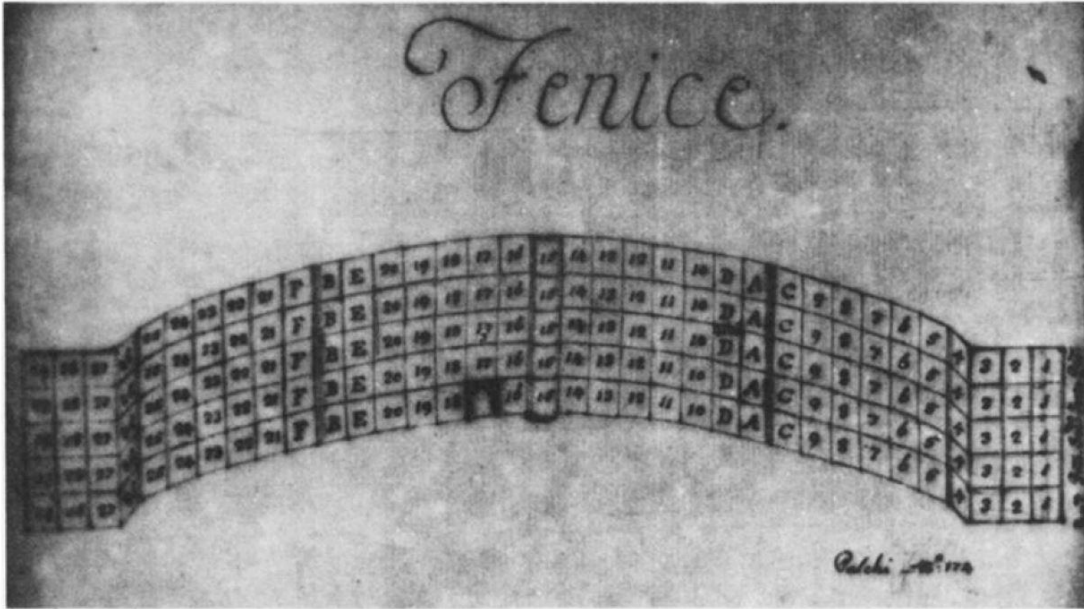
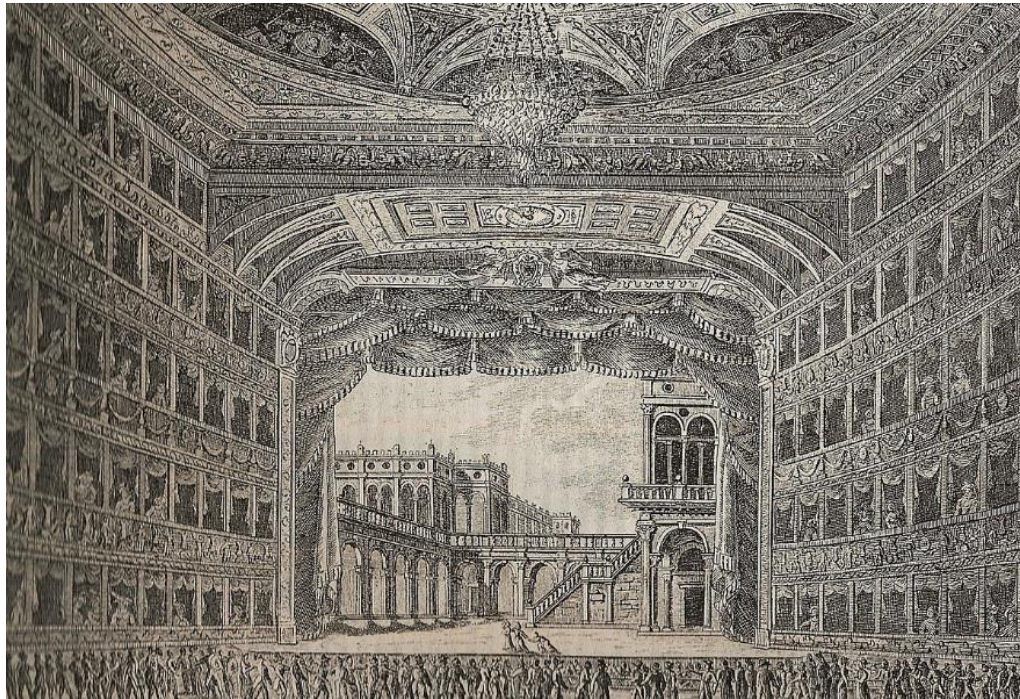


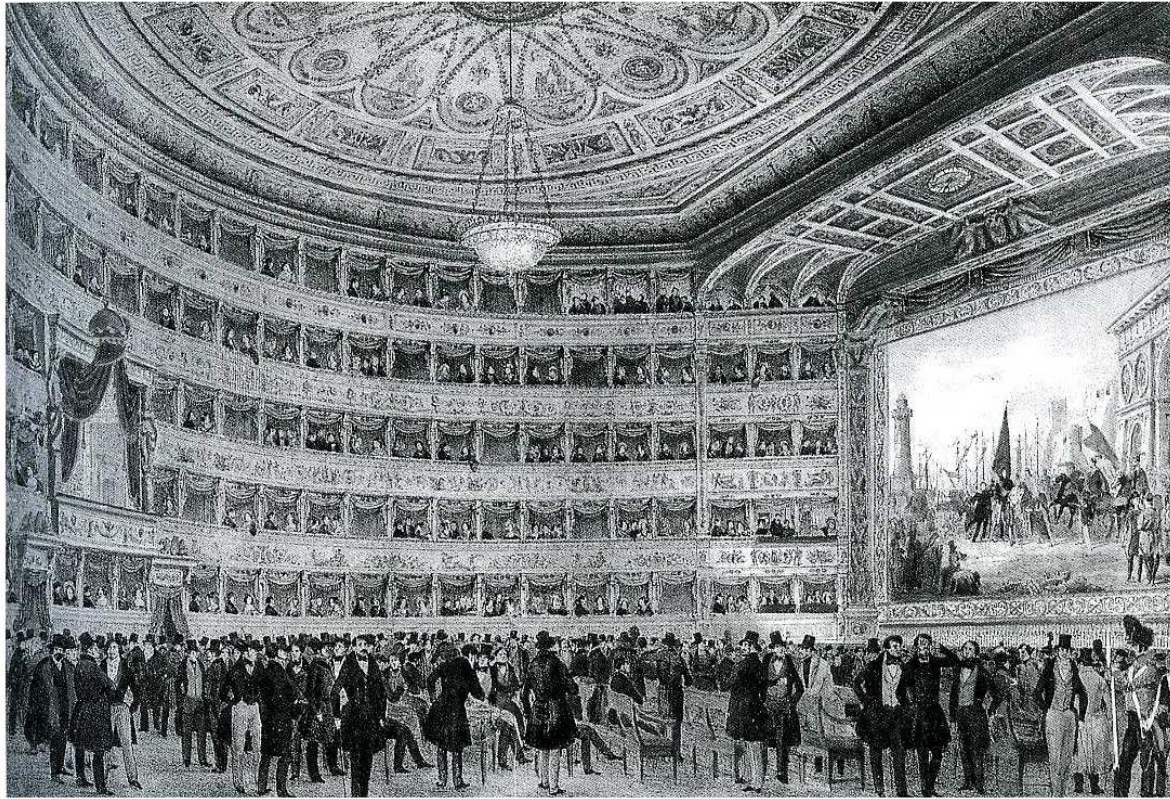
Figure 1. The arrangement of boxes at La Fenice in 1795 (Venice, Museo Civico Correr, Ms. Correr 970/25)

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1837 – after 1836 fire

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2007

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Present day

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Berlin Schauspielhaus

Karl Friedrich Schinkel (March 13, 1781 – October 9, 1841) was a German architect, artist, and set designer. Beginning in 1810, he was “architect and assessor to the Prussian Ministry of Public Buildings” (Manfred). This position gave Schinkel the power to influence theater design throughout Germany. He wanted to “educate and purify the public” through his theater design (Manfred). His set designs varied in artistic style depending on the show being produced. For example, for Mozart’s “Magic Flute,” Schinkel was influenced by the classical antiquity style (Schinkel). Schinkel believed that each audience member deserved the same experience no matter where they were seated. This was not possible with current stage architecture due to proscenium arches and wings. In order to increase views and improve acoustics, he believed the orchestra pit should be lowered. Schinkel also wanted the painted backdrops act as a “symbolic background” to the show (Manfred).

Schinkel designed the Berlin Schauspielhaus, also known as the Konzerthaus Berlin, in 1818 to 1821. However, this building was first opened in 1776 as the French Comedy House (Architektur). In 1802, the French Comedy House became the National Theater, which burned down in 1817 (Architektur). Due to the fire, Schinkel was hired by King Friedrich Wilhelm III to design a new theater in 1818. The new creation, named the Schauspielhaus, opened in 1821 (Konzerthaus). Schinkel’s building was destroyed by a bomb during World War II. It was rebuilt and opened again in 1984 as a concert hall instead of a theater. This reconstruction accurately represented Schinkel’s 1818 exterior design, but the interior space was altered. The interior remained Neoclassical in style but was slightly more ornamented (Architektur).

The Schauspielhaus is located in the Gendarmenmarkt, one of the main central plazas in the city of Berlin. The Gendarmenmarkt was built in 1688 and is a gathering space for social interaction. There were upscale residential buildings around the plaza with the theater at its center. The prominent location of the Schauspielhaus demonstrated the fact that theater was appreciated by the city and was an integral part to society (Architektur). Schinkel’s neo-classical

design complements the other buildings in the square in terms of “scale, mass, and proportion” (Pundt).

The Schauspielhaus represents classicism in Germany (Architektur). When Schinkel was redesigning the theater in 1818, he blended what was left of the old theater, such as the front columns and exterior walls, with new construction (Konzerthaus). The Schauspielhaus relates to the two churches located on either side of the theater by incorporating a similar portico and centralized structure. Schinkel wanted to make a 3-part exterior façade with the central part being taller and wider. This middle section stands out from the rest of the blocklike structure (Pundt). The combination of a grand staircase, portico, and “gabled ornamental crowning” creates a “steeply rising decorative façade” (Architektur).

Schinkel added a north wing and a south wing, which housed two small concert halls, rehearsal rooms, dressing rooms, and office space. Under the new staircase, there was a passageway for carriages to drop off spectators directly at an entrance. This entrance is still used today. The three divisions of the new building (main area flanked by two wings) were internally defined by staircases (Architektur). This spatial arrangement of the interior creates strong implied circulation patterns that the audience members must follow.

In the main performance space, called the Great Hall, Schinkel tried out a new method of theater design by changing the higher Baroque stage into a lower, wider proscenium. He also built an arch to separate the stage from the audience (Konzerthaus). These advancements in theater design resulted in the actor-audience relationship becoming more formal and less interactive. Unfortunately, the Schauspielhaus fell short of fully achieving Schinkel’s ideal theater where everyone had equal experiences (Manfred). Regardless, the Great Hall still remains one of the top five performance spaces in the world in terms of acoustic quality.

The Schauspielhaus opened in 1821 with a performance of Goethe’s “Iphigenie auf Taurus.” For this show, Schinkel painted a panorama backdrop of the renovated Gendarmenmarkt, which he helped design as an architect. He wanted to give the audience a comprehensive view of the urban setting so they could see “spatial and formal relationships of

the monument framing the Gendarmenmarkt” (Pundt). This backdrop was used to educate the audience of their new surroundings.

In 2003-2004, two new rooms were added to the building, the Werner Otto Saal and the visitor’s center. These two rooms are not in the same style as the rest of the building. The Werner Otto Saal, also called the “Black Box,” is a performance area that creates a new type of listening experience for audience members. A musical composition is played with no introduction and patrons are not provided with any information about piece. After hearing it performed, the orchestra and conductor will tell the audience about the background of the piece, such as the title, composer, time period, etc. Then, the musicians play the same piece a second time so audience members can apply their new knowledge (“2 X Hören”). This innovative listening format strips people of preconceived notions and prevents them from making judgements about a piece before actually hearing it. It allows patrons to experience music in an unbiased manner. Listening to the same piece again with their new knowledge causes people to reflect upon what they initially heard and perhaps pick up on nuances the second time around. This new listening format creates a meaningful learning experience for audience members.

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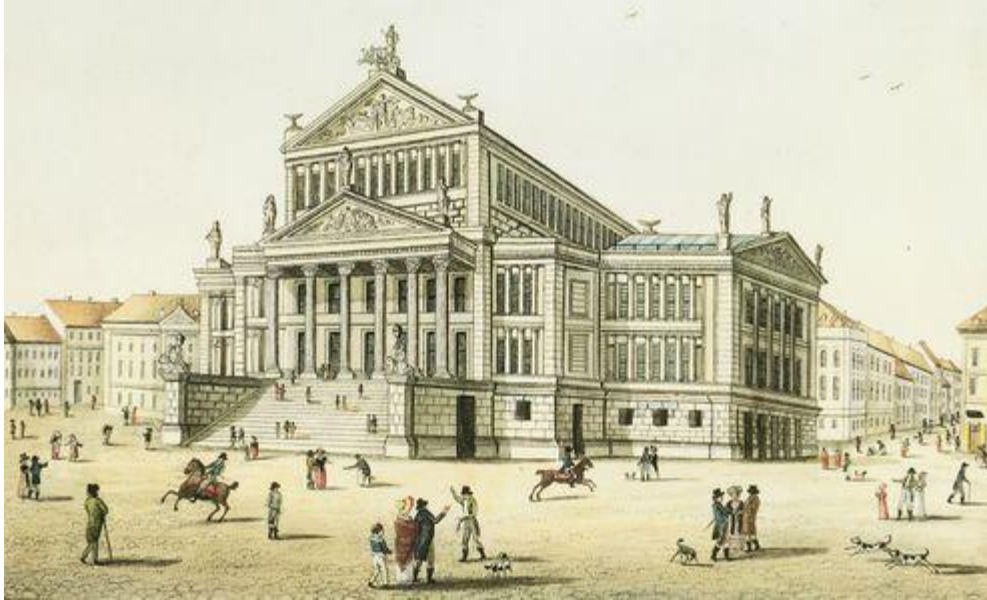
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Konzerthaus Berlin in 1821

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Grosser Saal (Great Hall) – main theater

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<<http://www.konzerthaus.de/konzerthaus-berlin/architektur>>.



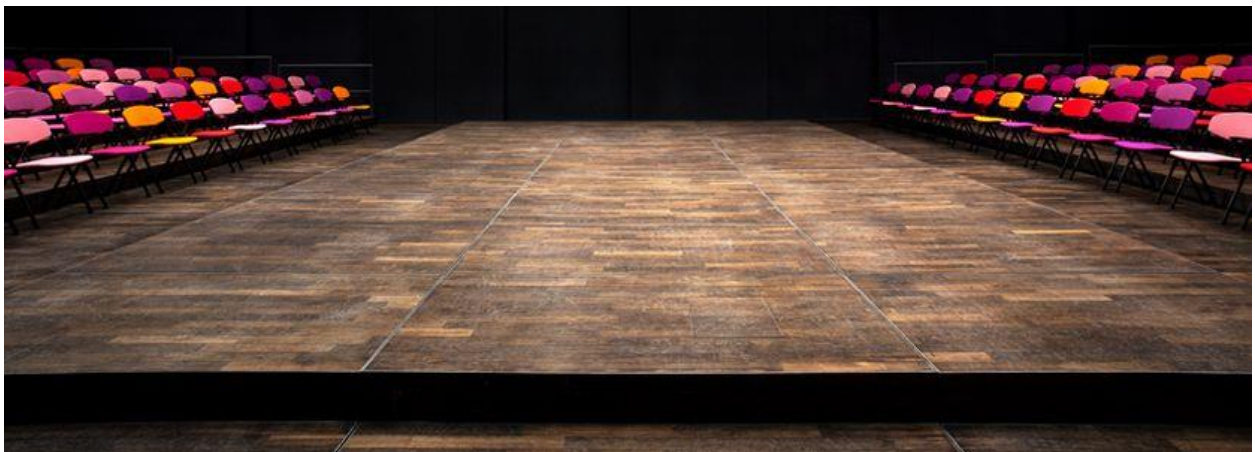
Garderobenfoyer

Runge, Sebastian. N.d. Photograph. Berlin. *Architecture*. Konzerthaus Berlin. Web. 25 Feb. 2014. <<http://www.konzerthaus.de/konzerthaus-berlin/architektur>>.



Kleiner saal

Runge, Sebastian. N.d. Photograph. Berlin. *Architecture*. Konzerthaus Berlin. Web. 25 Feb. 2014. <<http://www.konzerthaus.de/konzerthaus-berlin/architektur>>.



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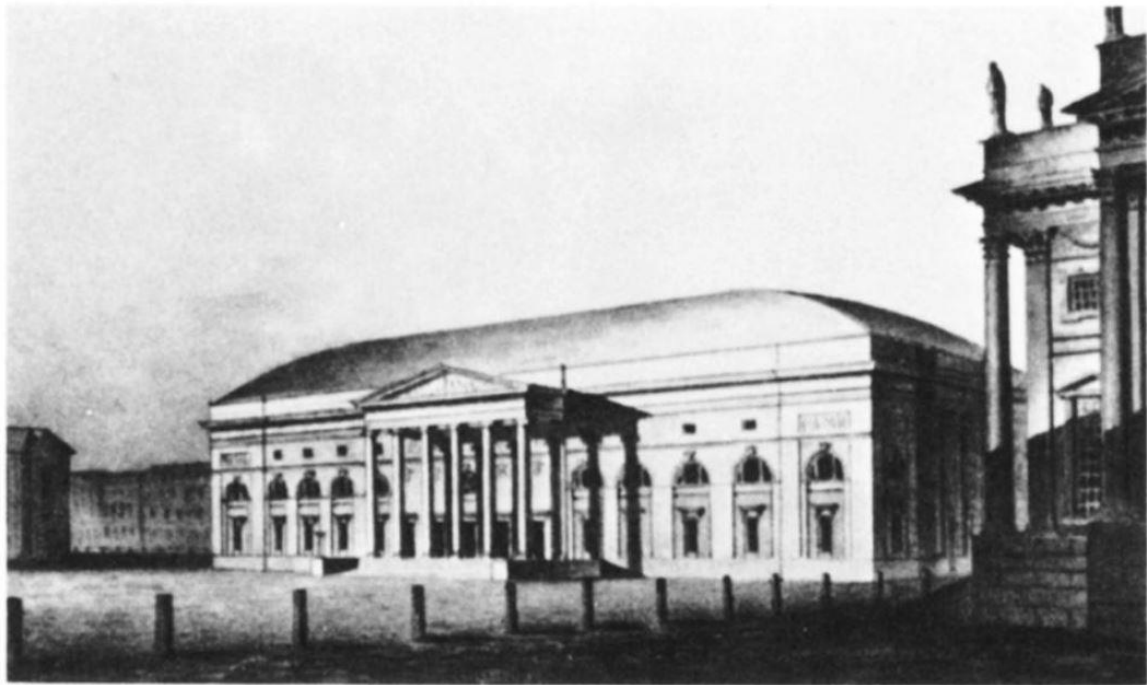


Fig. 7. Drawing of Langhans's theater by Schinkel (from Rave, *Schinkel Lebenswerk*).

1800-1802 Theater designed by Karl Gotthard Langhans

Pundt, Hermann G. "K. F. Schinkel's Environmental Planning of Central Berlin." *Journal of the Society of Architectural Historians* 26.2 (1967): 114-30. *JSTOR*. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/988416>>.

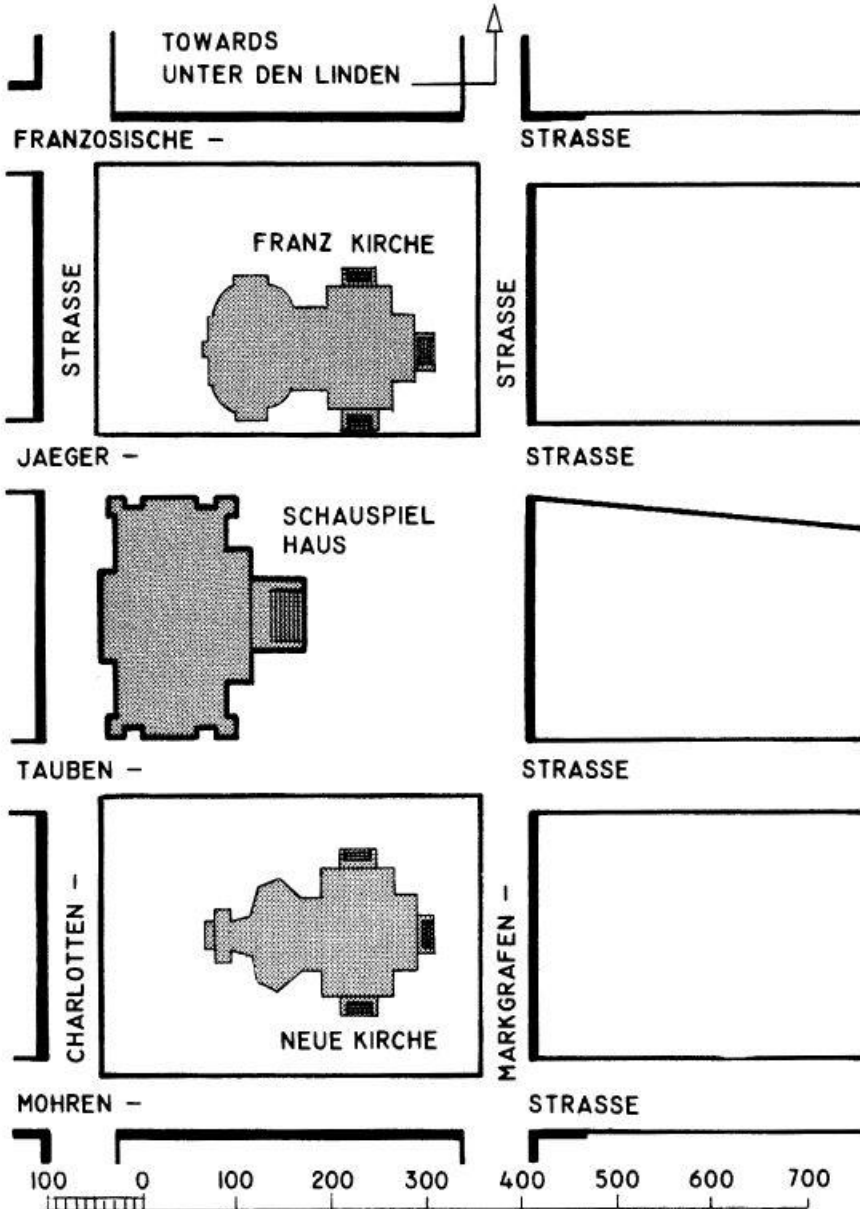


Fig. 8. Gendarmenmarkt, site plan (after city map, ca. 1870).

Pundt, Hermann G. "K. F. Schinkel's Environmental Planning of Central Berlin." *Journal of the Society of Architectural Historians* 26.2 (1967): 114-30. JSTOR. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/988416>>.



Fig. 9. Gendarmenmarkt, looking north, with Schauspielhaus and Französischer Dom (photo: Eschen-Bavaria).

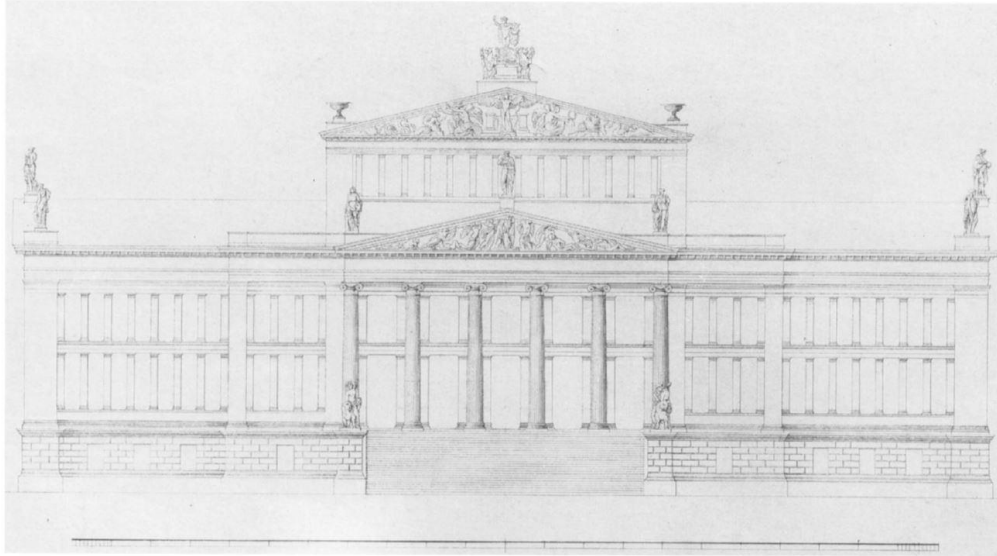
Pundt, Hermann G. "K. F. Schinkel's Environmental Planning of Central Berlin." *Journal of the Society of Architectural Historians* 26.2 (1967): 114-30. JSTOR. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/988416>>.



Theater's placement in Gendarmenmarkt in 1910

Source: Z, P. *Gendarmenmarkt-Schillerplatz*. N.d. Berlin. *Konzerthaus Berlin*. Web. 7 Dec. 2015.

<https://en.wikipedia.org/wiki/Konzerthaus_Berlin#/media/File:Berlin_-_Gendarmenmarkt_-_around_1900.jpg>.



12 Schinkel, *Berlin Schauspielhaus*, façade, 1818 (photo: Staatliche Museen zu Berlin [Ost] 21b.66)

Moyano, Steven. "Quality vs. History: Schinkel's Altes Museum and Prussian Arts Policy." *The Art Bulletin* 72.4 (1990): 585-608. *JSTOR*. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/3045763>>.



13 Schinkel, *Berlin Schauspielhaus*, side elevation, detail, 1818-21 (photo: author)

Moyano, Steven. "Quality vs. History: Schinkel's Altes Museum and Prussian Arts Policy." *The Art Bulletin* 72.4 (1990): 585-608. *JSTOR*. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/3045763>>.

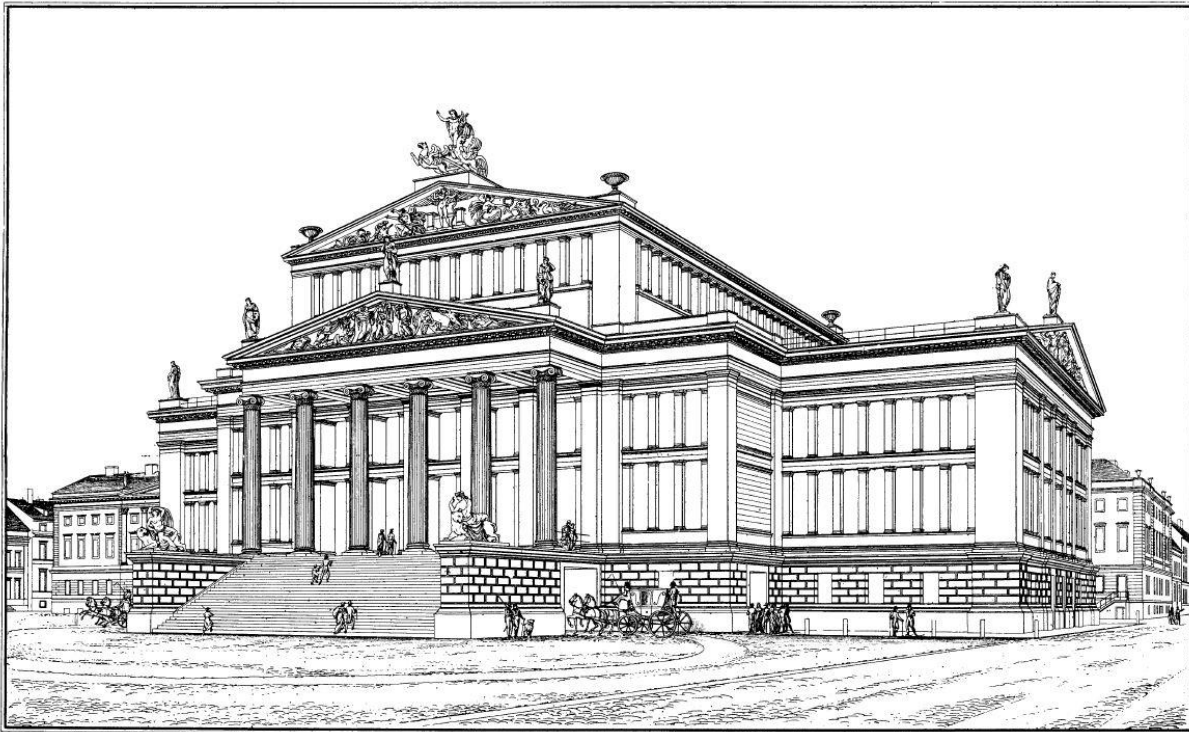


Fig. 6. Theater (Schauspielhaus), perspective view (from Schinkel, *Sammlung*).

Pundt, Hermann G. "K. F. Schinkel's Environmental Planning of Central Berlin." *Journal of the Society of Architectural Historians* 26.2 (1967): 114-30. *JSTOR*. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/988416>>.

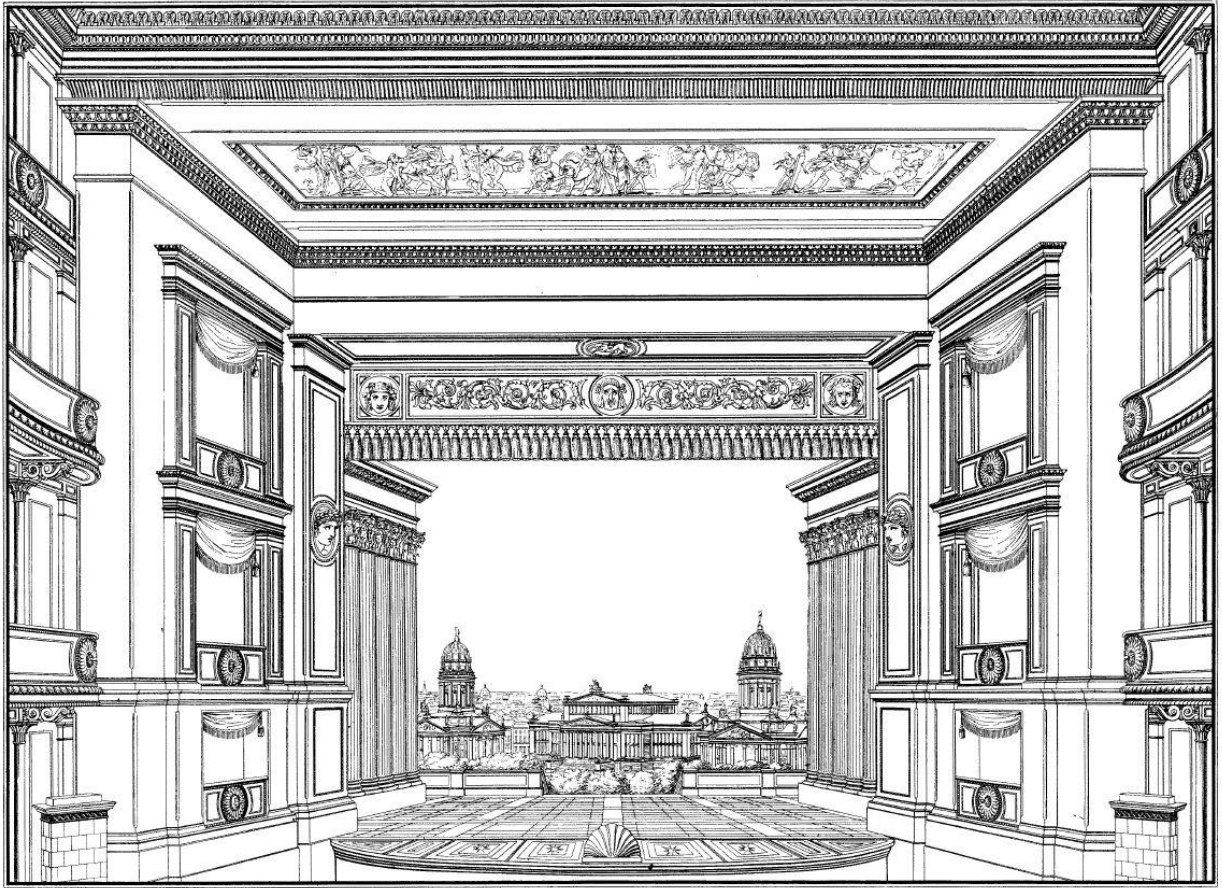


Fig. 11. Stage design for the Schauspielhaus (from Schinkel, *Sammlung*).

Pundt, Hermann G. "K. F. Schinkel's Environmental Planning of Central Berlin." *Journal of the Society of Architectural Historians* 26.2 (1967): 114-30. JSTOR. Web. 31 Mar. 2015. <<http://www.jstor.org/stable/988416>>.

Bayreuther Festspielhaus

Richard Wagner was born on May 22, 1813. He is a German painter, sculptor, writer, poet, musician, conductor, and composer (“Wagner, Wilhelm Richard”). Wagner composed his first symphony in 1832. In 1836-1837, he married an actress named Minna Planer and they moved to Paris two years later. In 1842, they moved to Dresden. During their time here, there was an uprising. Wagner “sided with the revolutionaries” so the police sent out a warrant for his arrest (Wagner, Oxford). Wagner fled to Weimar where Liszt, a fellow composer, took him in. Wagner and his wife were very poor and obtained financial support from a German man in Weimar. Wagner had an affair with this German man’s wife, causing Minna to leave Wagner in 1858. However, Minna returned to Wagner a year later. Wagner was finally permitted to return to Germany, but not Saxony, in 1861 due to his participation in the uprising. A year later he gained access to Saxony. In 1864, Wagner fled to Vienna because he owed multiple people as well as the government money. Eventually, he ended up in Stuttgart where he was taken under the wing of King Ludwig II of Bavaria. Together they went to Munich. Wagner fell in love with his conductor’s wife, named Cosima von Bulow (illegitimate daughter of Liszt). They had two daughters and one son together and moved to Switzerland from 1866 to 1872 because the people of Munich did not like Wagner. Meanwhile, Minna passed away and Cosima divorced her husband to be with Wagner. Cosima and Wagner got married in 1870. In 1874, they moved to Bayreuth where Wagner opened the Festspielhaus. Due to multiple heart attacks, Wagner passed away on February 13, 1883 in Venice (Wagner, Oxford).

Wagner was a strong believer in Gesamtkunstwerk, or a unification of the arts. He believed that art is both conscious and unconscious. There are two categories of art. The “human arts” originate from man or the body, such as music, poetry, and dance. The second type of art is “created by man from the materials of nature” (Simon). This category is secondary and supportive to the human arts. Wagner thought “music and drama should be one and indivisible” (Wagner, Oxford). In his writing “The Artwork of the Future,” he uses the phrase “total artwork of the future” to describe “not just a union of all the arts but a community of artists working together as a collective, a cooperative of artists” (Chronology).

Wagner's writings and musical compositions were often influenced by the visual arts. For example, Wagner saw the painting "Assumption of the Virgin" by Titian and wrote "Die Meistersinger von Nürnberg," a musical composition, as a result. In addition, when Wagner met Renior, a famous painter, they first used the term "Impressionism," which is originally an art term, to describe music (Simon). In addition to being inspired by the arts, Wagner often designed the scenery and costumes for the operas that he wrote in order to present a unified work of art (Wagner, Wilhelm Richard).

Wager wanted to build a theater for the sole purpose of performing his own compositions (Ridley). The first idea to build the Bayreuther Festspielhaus came to him in 1850. He began scouting out locations for his opera house in April of 1871 (Chronology). Originally, Wagner looked at the Margravian Opera House due to its interior layout and construction but eventually decided to build his own theater so he wouldn't have to compromise his ideas. The Bayreuther Festspielhaus was funded by private donors and construction began in May 1872 (Wagner). Part way through the building process, money ran out, but King Ludwig II of Bavaria agreed to help fund the project (Chronology).

The Bayreuther Festspielhaus opened in 1876. This theater is perhaps the first instance of modern opera production. The Bayreuther Festspielhaus is the culmination of illusionism, the most popular form of theater at the time (Howard). Wagner wanted to create a building that was the "perfection of simplicity" (Wagner). His design avoided foreign influences and did not reference other building types, such as palaces, museums, or churches, in order to preserve the traditional function and integrity of a German theater. Wagner wanted all of the stage sets to look very realistic so nothing was left to the imagination (Wagner). Performers were told to pretend that the audience was not there and only interact with the other performers on stage. Wagner also encouraged more natural acting rather than dramatic, over the top expressions (Howard).

When Wagner died, his wife took over the theater. She wanted to stay true to her husband's natural approach but became too strict about preserving his ideas and "stifled inspiration" (Howard). Siegfried Wager, Richard Wagner's son, eventually took over and

“introduced solid 3D sets and other cautious innovations more in tune with the times” (Howard).

When the Nazis took over Germany, the Bayreuther Festspielhaus was one of the only places where people could still enjoy creativity. The theater reopened after World War II in 1951 but people still associated Bayreuther with the Nazis. At this time, Wagner’s grandsons, Wieland and Wolfgang, were in charge. They wanted to create a new image for the theater so they threw away all the old stage sets and machinery. They only incorporated the necessities into the stage design and used a cyclorama to enhance production. Instead of performing the works in the “naturalistic mode in which they were first performed,” the grandsons permitted the shows to depart from the norm and allowed new interpretations of the classics (Howard).

Key architectural features

Wagner wanted to hide the orchestra because he thought looking at the musicians obstructed views of the performers on stage. He wanted to constrict the image the audience saw only to the performers on stage in order to transport the audience to another world. Wagner wanted to eliminate anything that would remind people of reality (Wagner). In order to produce this effect, Wagner lowered the orchestra pit, kept the auditorium dark throughout the performance (Simon), and changed the seating arrangement. He put the seats on a tiered slope and added more seats in the back rows than in the front rows to account for perspective (Wagner).

Wagner also refrained from installing box seats on the side walls because patrons would be able to see into the orchestra pit from this viewpoint. However, the removal of box seats posed another problem. The side walls were perpendicular to the stage but the seats were arranged in a curved funnel “Wi-Fi” shape. The absence of box seats resulted in blank walls, making it difficult to integrate them with the tiered seating. Wagner solved this problem in two different ways. First, he built a third proscenium in front of the second proscenium which reduces the amount of blank surface area seen by the audience. Second, side walls were built parallel to the stage filling the space between the seats and the main perpendicular walls.

These side walls created small hallways that audience members could use to reach their seats, further concealing people and preventing patrons from becoming distracted during the show. These side walls were an eye sore so pillars were placed at the ends of the walls to improve aesthetics and hide the hallways and stairs. These side walls create the illusion of diagonal walls that are in line with the edges of the seats (Wagner). These two architectural features solve the problem caused by the absence of box seats.

At the Bayreuther Festspielhaus, distance perceptions are manipulated, affecting the audience's experience and audience-actor relationships. The use of multiple prosceniums makes the stage appear "more distant from the spectators than it really was" and creates a "wonderful illusion of the senses." This perceived distance makes audience members feel like they are watching a dream because the actors appear so far away. The empty space between the stage and the start of the audience seating is called the "mystic gulf," separating reality from "the ideal." The music coming from the "mystic gulf" is like "vapor rising from the sacred bosom of the Earth" which entrances the viewer and brings them to a "state of clairvoyance" and makes the viewer see the performance as "the perfect image of real life" (Wagner).

In most theaters, the backstage area must be three times the height of what the audience sees in order to raise and lower the stage sets. This creates a large discrepancy between the height of the auditorium and height of the backstage area. In previous theaters, architects built rooms near the ceiling above the auditorium but these rooms were hardly used because they were awkward and uncomfortable. Architects would also put boxes along the back of the theater. Some of these boxes were above the height of the stage opening. These bad seats were for poor people. If the theater was designed like this, the building would be one big box. However, Bayreuth does not use this box model. From the front of the building, people can see the two different levels: the lower height of the auditorium and higher height to store the stage sets. Wagner wanted to clearly state the function of the building from the exterior view and show off the fact that it had to be twice as tall to accommodate the sets (Wagner).

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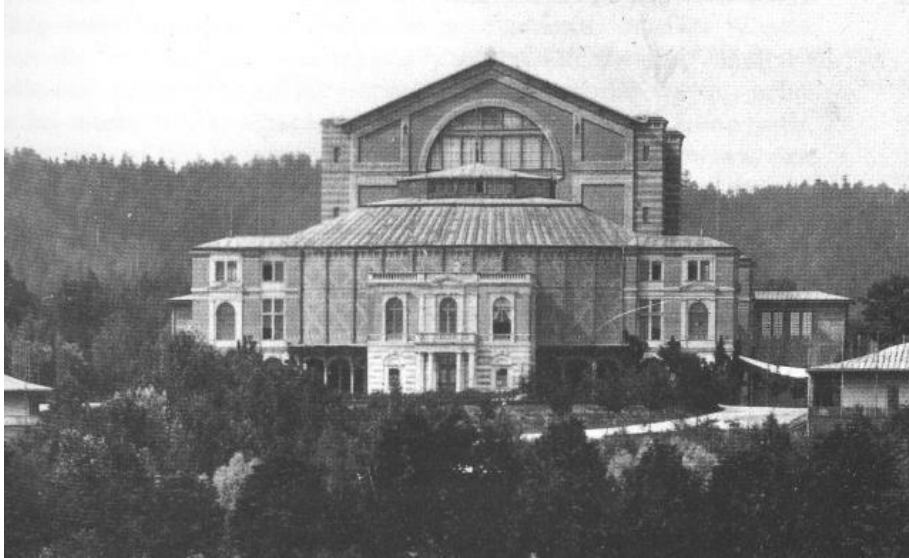
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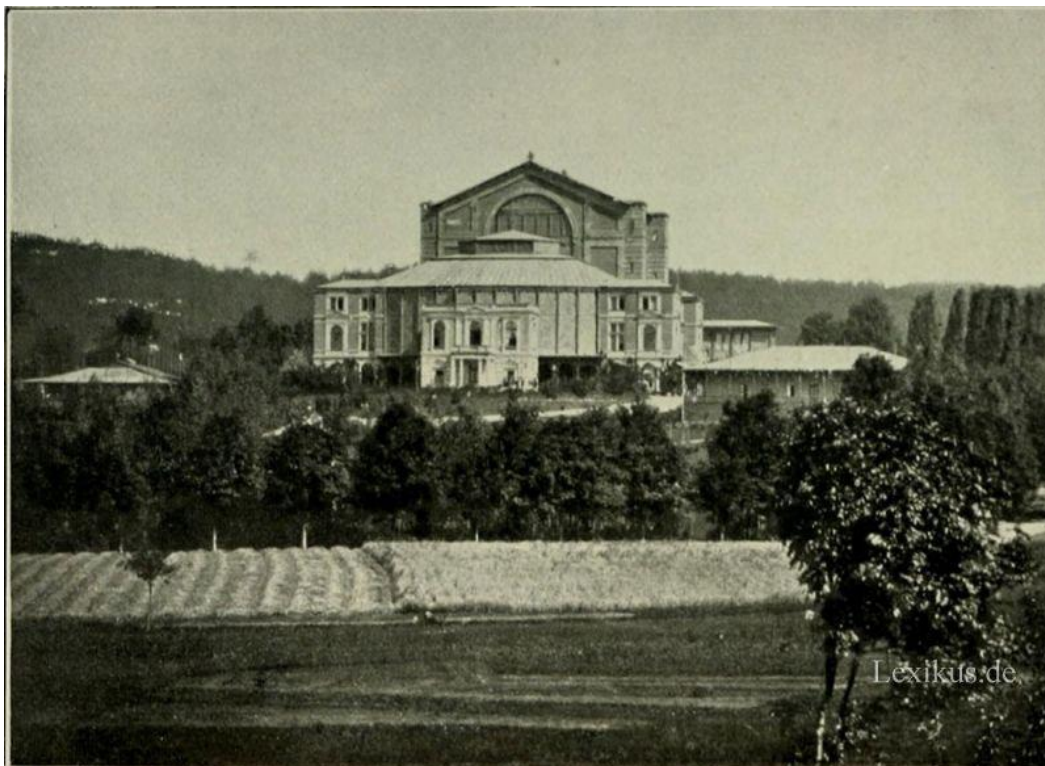
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1882

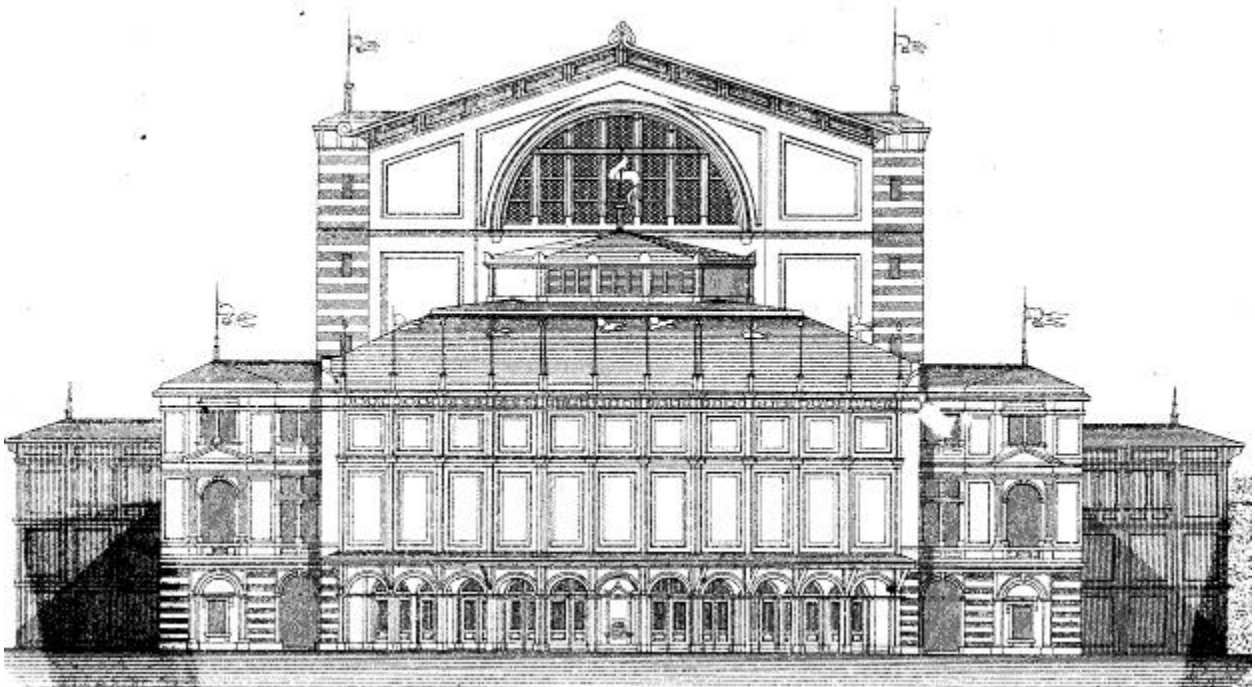
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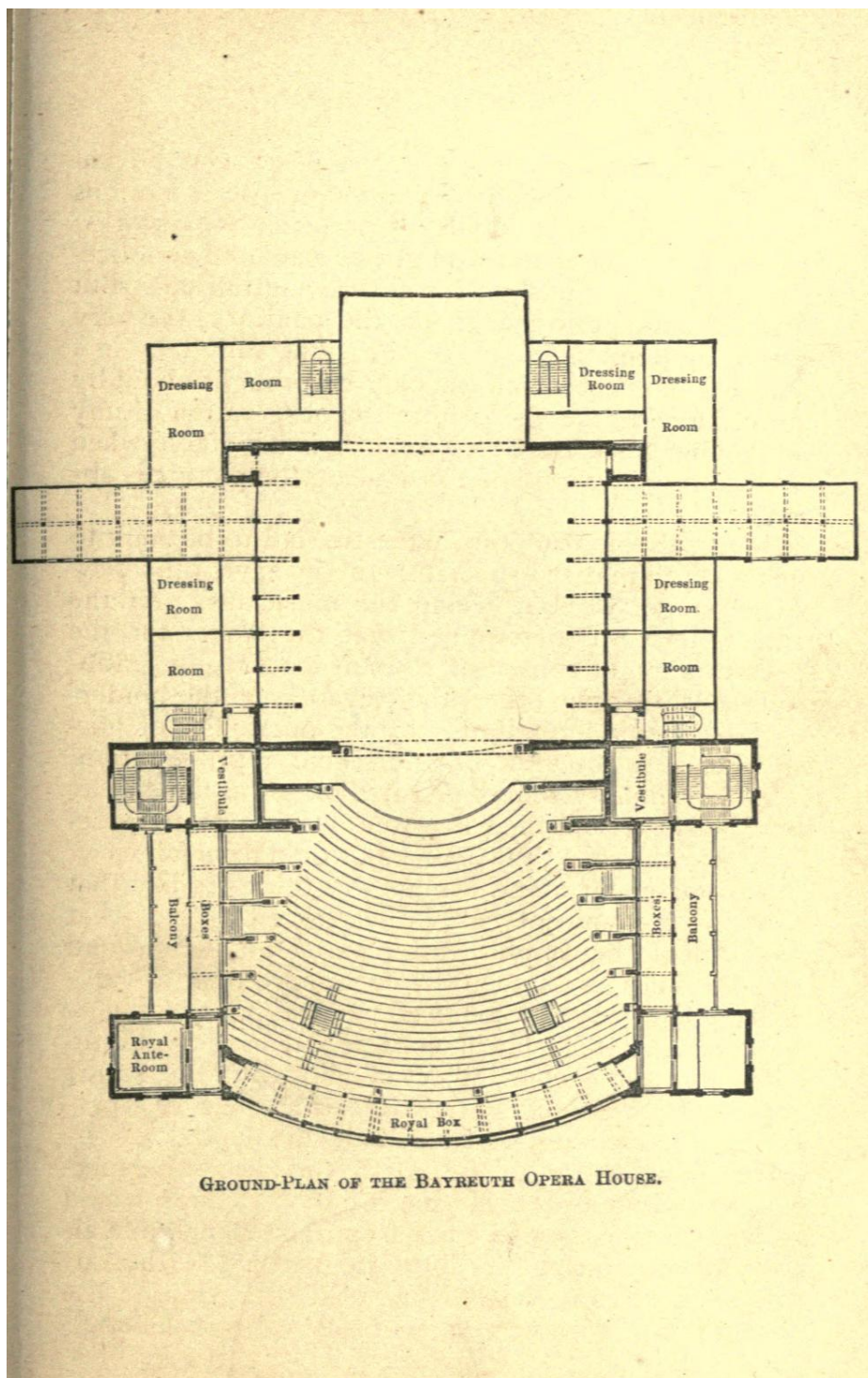
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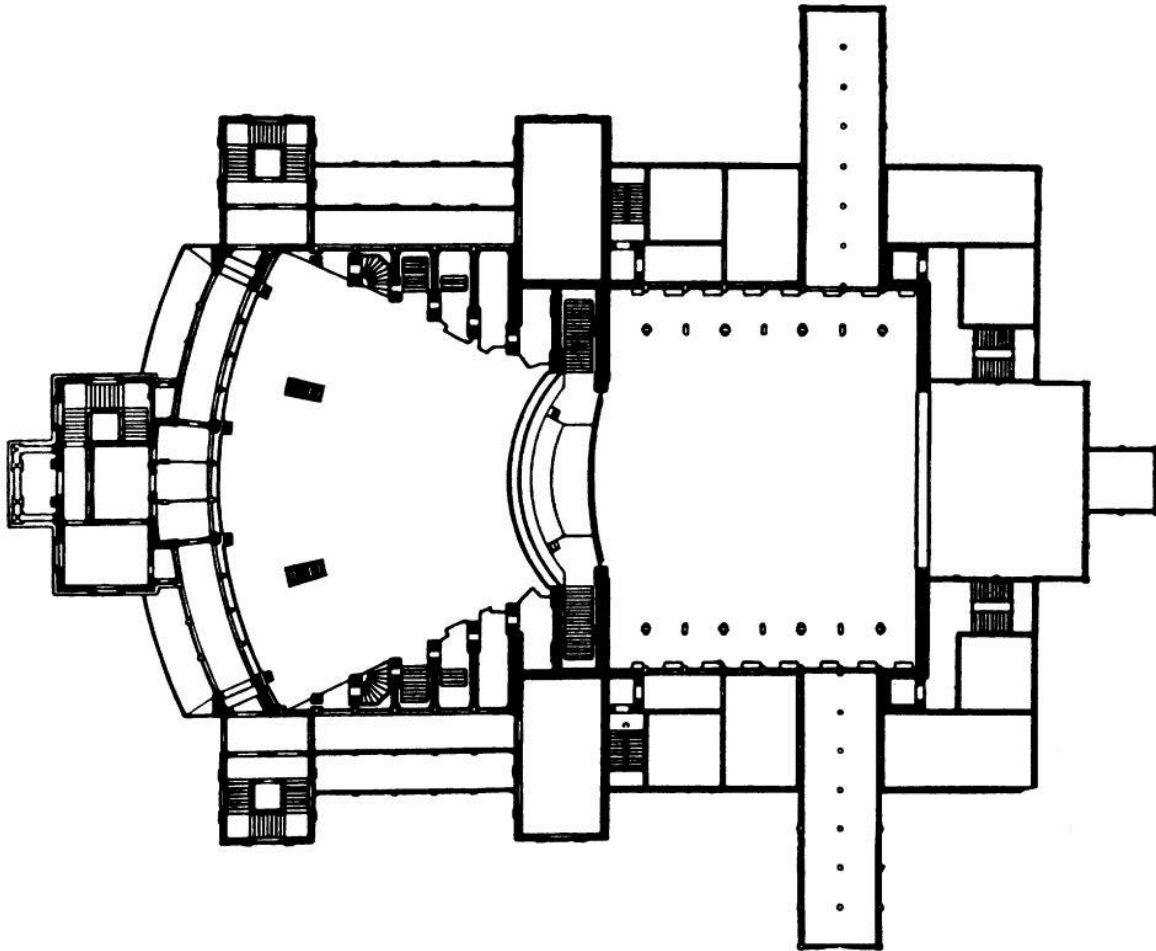
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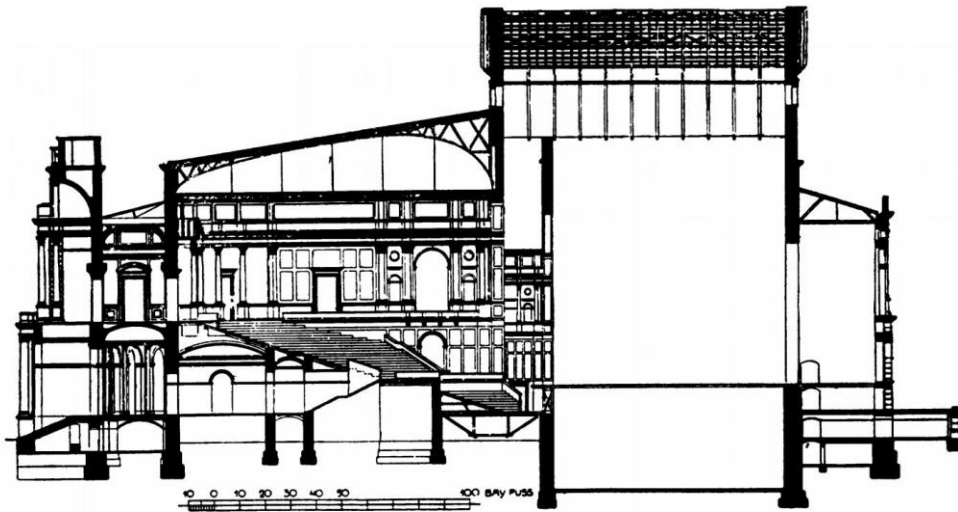


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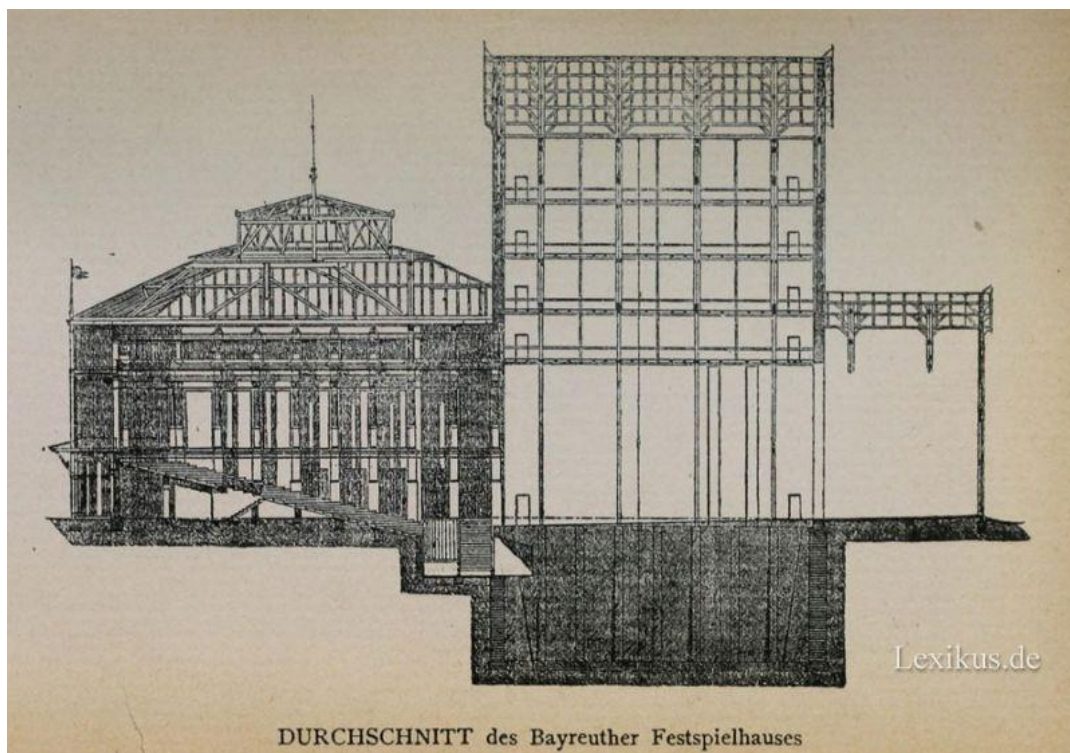
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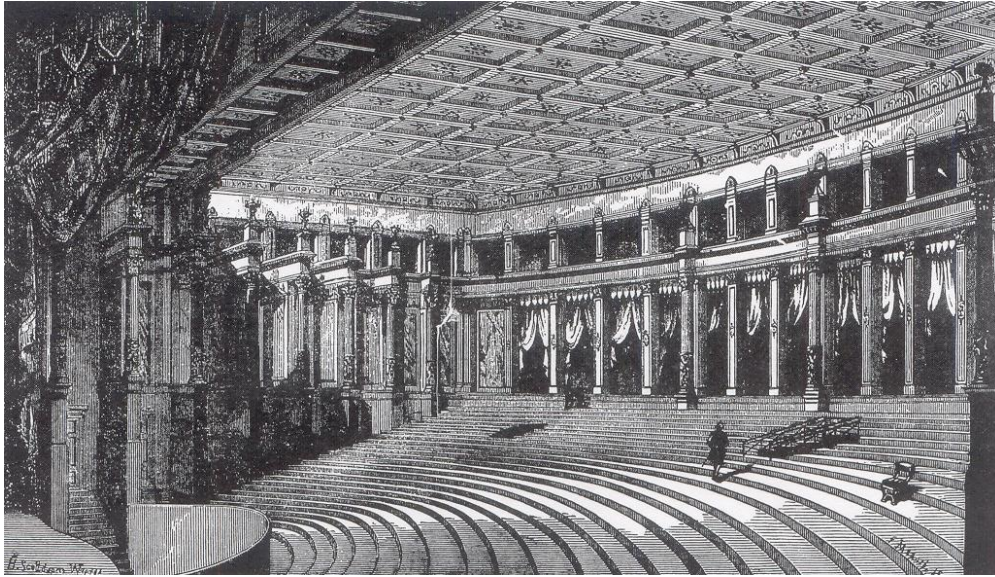


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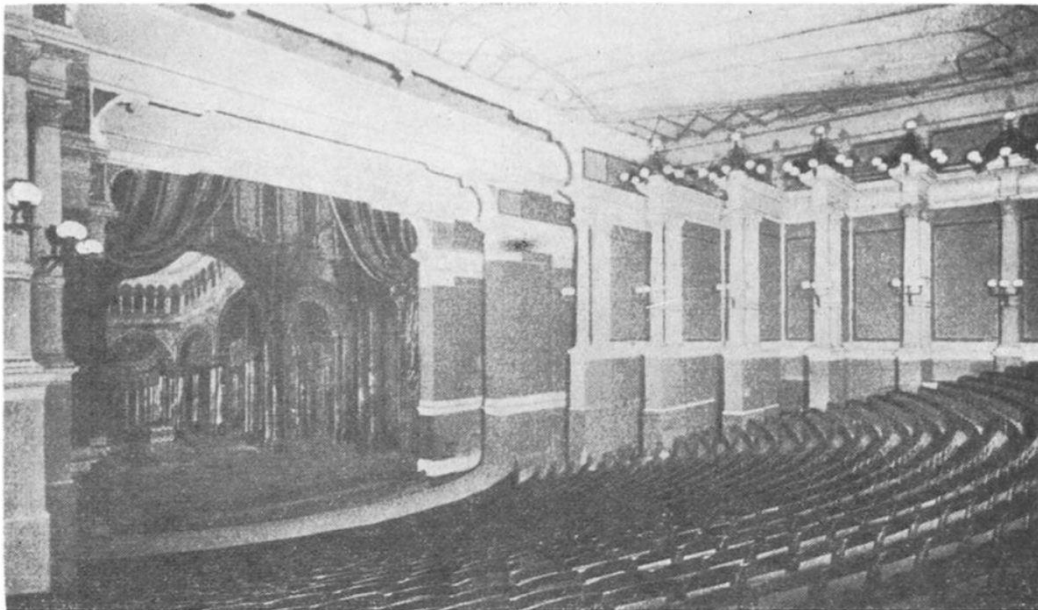


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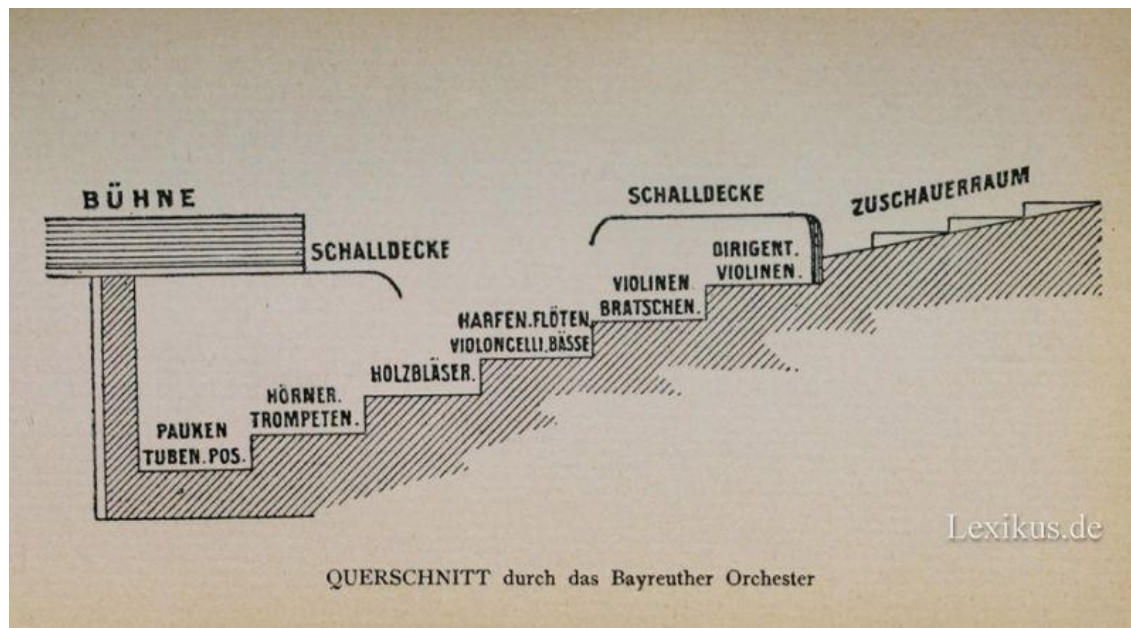
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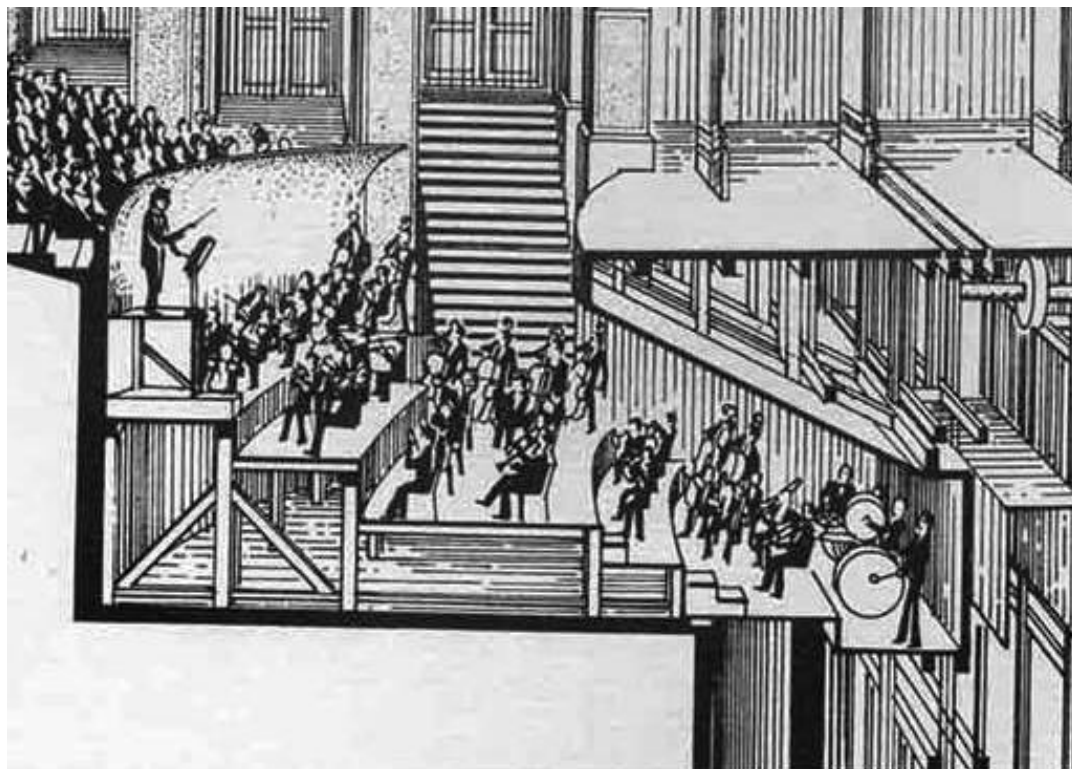


3. View of auditorium and stage, Festspielhaus at Bayreuth

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FIG. 1—Richard Wagner traveled widely and often between 1826 and 1883, especially in Italy, Austria, France, Czechoslovakia, and Switzerland. (Cartography by the University of Nevada Mapping Facility)

Sternberg, Rolf. "Fantasy, Geography, Wagner, and Opera." *Geographical Review* 88.3 (1998): 327-48. *JSTOR*. Web. 21 Apr. 2015. <<http://www.jstor.org/stable/216013>>.

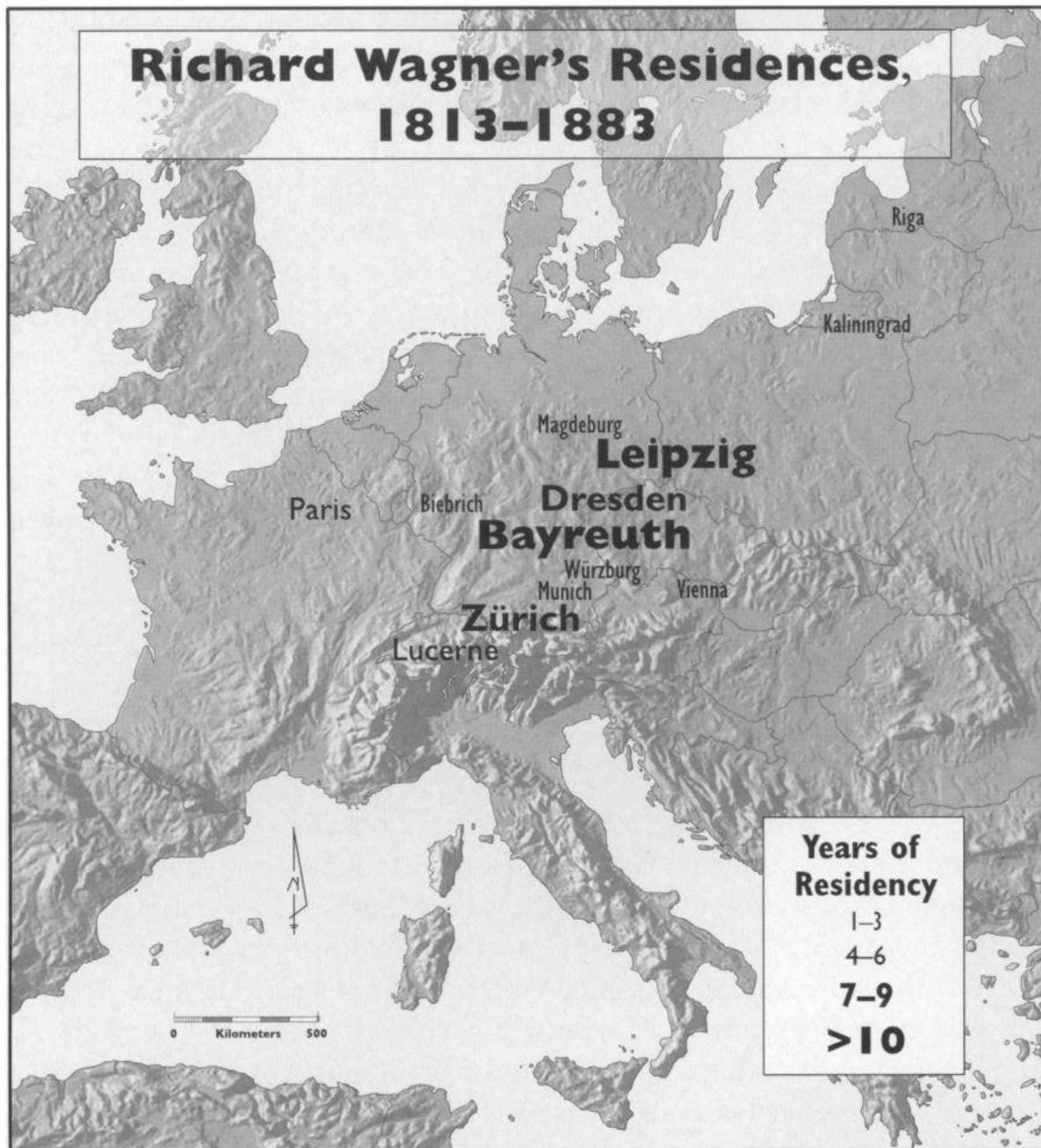


FIG. 2—Unlike composers such as Verdi, Wagner moved frequently. The “center of gravity” of his residences remained southeastern Germany, and he ultimately came to rest in Bayreuth. (Cartography by the University of Nevada Mapping Facility)

Sternberg, Rolf. "Fantasy, Geography, Wagner, and Opera." *Geographical Review* 88.3 (1998): 327-48. JSTOR. Web. 21 Apr. 2015. <<http://www.jstor.org/stable/216013>>.



FIG. 6—Wagner based the locations of his plots on theme sites rather than on contemporary national identities, as is best exemplified in *Tristan und Isolde*. His search for source materials that were consistent with his aesthetic images and for themes that fitted his artistic bias was wide ranging. (Cartography by the University of Nevada Mapping Facility)

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Northrop Auditorium

History

In 1922, the University of Minnesota started fundraising to build a new stadium and auditorium. They needed two million dollars to complete these projects. At this point in history, this was the most money sought in a campaign in Minnesota. The university wanted the new auditorium “to serve as an academic and cultural hub for the campus and the state.” Even the university campus population helped pitch in. Different departments held competitions to see who could raise more money. The campaign raised \$665,000 from 1500 students and faculty alone in just four days. In the year to come, every single county in Minnesota provided support. A celebratory cannon went off every time another \$25,000 was raised.

Northrop Auditorium, originally called Cyrus Northrop Memorial Auditorium, was named after the University of Minnesota president who served the longest term. It was designed by Clarence H. Johnston Sr. in the Beaux Arts style. Its location on campus was determined by Cass Gilbert. Northrop opened in October 1929 with a performance by the Minneapolis Symphony Orchestra, now known as the Minnesota Orchestra. The Minnesota Orchestra used Northrop as its rehearsal and performance venue for the following 44 years.

Problems

The auditorium’s acoustics were not great from the start. Various attempts to improve acoustics, such as hanging reflectors down from the proscenium arch, failed. A previous conductor for the Minneapolis Symphony Orchestra once claimed, “The only thing that could truly repair the acoustics of the Northrop Auditorium is dynamite.”

Northrop fell into disrepair in 1970. Events normally held here started moving to other venues. The Minnesota Orchestra moved to a different performance space, the annual Opera

tour was canceled, and art exhibitions moved to a new museum. The building was literally falling apart. Plaster was coming off of the ceilings, the sound quality was terrible, and it was hard to see the stage from the audience. At this point, Northrop didn't have any spaces that students would or could use. As a result, students did not come into the building. Northrop was not the "academic and cultural hub" that was originally intended.

Desiring a Change

No action to improve the space was taken until 1993 when the University "conducted 11 studies addressing Northrop's increasing obsolescence." Various ways to remedy Northrop's problems were suggested. However, nothing was set in motion until 2009. The proposal that the University decided to move forward with wanted to fix the acoustic problems in the auditorium and bring more students into the building on a regular basis.

In 2010, HGA was hired for architectural design and ARUP was hired for acoustics. They proposed three levels of intervention: restoration and reuse, resonant intervention, and addition. The vision for the renovation was "to create a space for world-class performance surrounded by academic programming, fostering innovative interactions, collaborations, and public gathering." By combining academics and the arts, Northrop hoped to become an icon and destination in the community.

Renovation and Restoration

The main lobby of Northrop is called Memorial Hall. This is where visitors can look up and see all three floors. Memorial Hall was restored to "reflect the quality of the historic architecture in the hall." In the old auditorium, there were six large stone urns, but these have been moved to the lobby to be more prominently showcased. Other renovations were made to increase the functionality and circulation of the building. For example, the box office was expanded and more bars were built. Twice as many staircases, elevators, and bathrooms were

added to facilitate large crowds and reduce waiting time. They also included a café on the first floor to draw the student population into the building.

The atrium (the space past Memorial Hall) was renovated to include more open space for “gathering and circulation.” From the third floor, people can look down into the atrium and Memorial Hall from a bridge or study area. The bridge has bronze railings (bronze finish) that are “syncopated with the rhythm of the existing stone openings and balustrades.” The vertical grate underneath the handrail varies in thickness depending on what the balustrade is doing across from it.

A new innovation introduced at Northrop are plaster panels designed to incorporate the Laban system of dance notation. These panels, installed throughout Northrop, are purely for aesthetics and do not contribute to acoustics. The panels represent both the past and the future of becoming a dance performance destination.

There are now three academic programs housed in Northrop: The University Honors Program, the Institute for Advanced Study, and the Innovation Lab. Offices, classrooms, and study spaces were added to accommodate these programs as well as draw students into Northrop. Speaking from personal experience, these study spaces are nice, quiet places to do homework on campus. I have seen a lot of students make use of these areas. Adding these academic spaces within the building contributes to the vision of becoming a collaborative space.

Renovation of the North Portion of the Building (facing Pleasant Street SE)

Previously, all equipment and shipments had to be brought into Northrop through one set of doors. Now, a loading dock that can accommodate three trucks has been built. Two multifunctional event spaces were also added, including access to a small catering space. The Rehearsal Hall was constructed which also functions as a performance space and event space.

Before the renovation, the north façade of the building looked very imposing and uninviting. It was a solid six story high brick wall with no windows. After renovation, the facade

looks a lot more inviting and is built at more of a human scale. There are many windows, some which offer a look into the Rehearsal Hall, which provide another way to engage students even if they are just passing by.

Performance Hall Renovation

The Performance Hall was renovated in accordance with the Beaux Arts style. The size of the room was decreased and the extra space was used for backstage areas and academic offices. The performance stage itself was enlarged by 16 feet in order to accommodate modern performances that require a bigger area. There was also a walkway added behind the stage so performers can get from one side to the other without having to walk underneath the stage like they did before.

Multiple solutions were implemented to solve the acoustics problem. In order to prevent the sound waves from focusing on only one area, traditionally auditoriums have a wide range of surfaces and angles which leads to a more even sound distribution. HGA and ARUP had to figure out a way to make “random” geometries while still adhering to the existing Beaux Arts design, which stands for uniformity and consistency.

The first solution was related to coffer design. The coffers in the ceiling are square, adhering to Beaux Arts design, but are specially designed to provide an even sound distribution to all audience members. In addition, the rear wall consists of varying “convex surfaces within regular vertical piers” resulting in more “evenly distributed sound reflections.” On the main floor (orchestra level), the wall panels around the audience are tilted at different angles in order to improve sound quality. Each panel has indentations at random places with various depths to “vary the time lapse of reflection, yielding a fuller sound.” These panels are placed between regular intervals of stone piers, recalling the Beaux Arts style. In the same manner, some of the columns along walls in the upper areas are made of cast plaster (similar to the Laban panels in the atrium) with grooves of different depths to control reflection. Again, this random geometry is placed within a consistent pattern of pilasters. Last, the front shape of the balconies is varied in order for the sound waves to bounce back into the hall. There are lights on

the front of the balconies that are reminiscent of the candle lights in the original design. The new design of the balconies places more seats closer to the stage and results in a closer connection between the audience members and performers.

One of the most treasured features from the original auditorium was the proscenium arch panels. Each panel represented one of the U of MN colleges from the 1930s, portrayed through an octagonal medallion, providing a personal element to the auditorium while still looking professional. The arch also impacts the sound quality for the rest of the auditorium. For the renovation, in order to improve sound quality, the original panels were remade (still including the college medallions) with “acoustic porosity,” or the ability for some sound to travel through the panels. This helps prevent the sound from reflecting back towards the stage and also improves “the amount and clarity of sound at the upper balconies.” The new panels also include rigging plugs to increase flexibility. The college medallion panels from the original auditorium can now be seen hanging on the walls in the atrium.

The New Northrop Auditorium

After six years of renovation and \$88.2 million, the new Northrop Auditorium opened on April 4, 2014 with a performance of “Giselle” by New York’s American Ballet Theater with a live orchestra. Improved acoustics provides a whole new experience for patrons. One music critic awes, “The sound, so distant and vague before, felt intimate and enveloping.” The renovations have also succeeded in making the space more trafficked, especially by students. Now the multifunctional building is used for a diverse array of events, including activity fairs, student festivals, convocations, recitals, lectures, commencements, civic events, and art exhibitions.

Works Cited

The source for this information is from an exhibit in Northrop Auditorium, called "Northrop Transformed." Information was accessed on May 22, 2015.

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Partially Completed Auditorium, 1929 and Completed Auditorium and Stagehouse, ca. 1930.

UMN Archives, UMNTC photograph



Completed North Addition, 2014.

Paul Crosby photograph



Historic Proscenium Arch, ca. 1930.

UMN Archives, UMNTC photograph



Historic Auditorium Seating, ca. 1930.

UMN Archives. UMNTC photograph



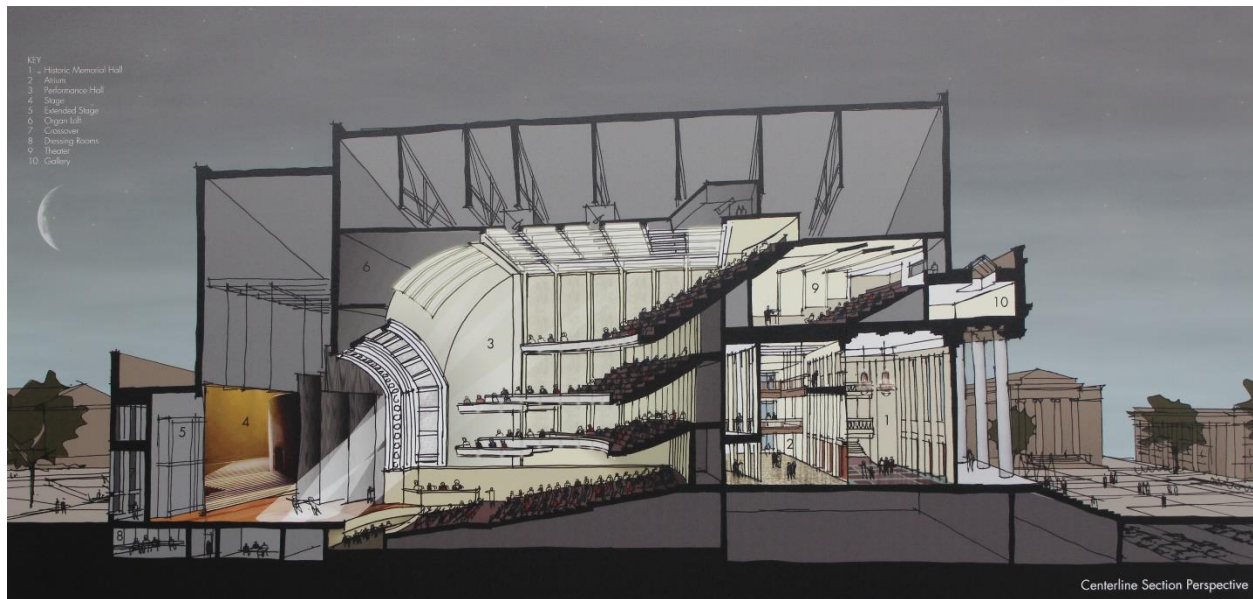
Historic Foyer, ca. 1930.

UMN Archives. UMNTC photograph



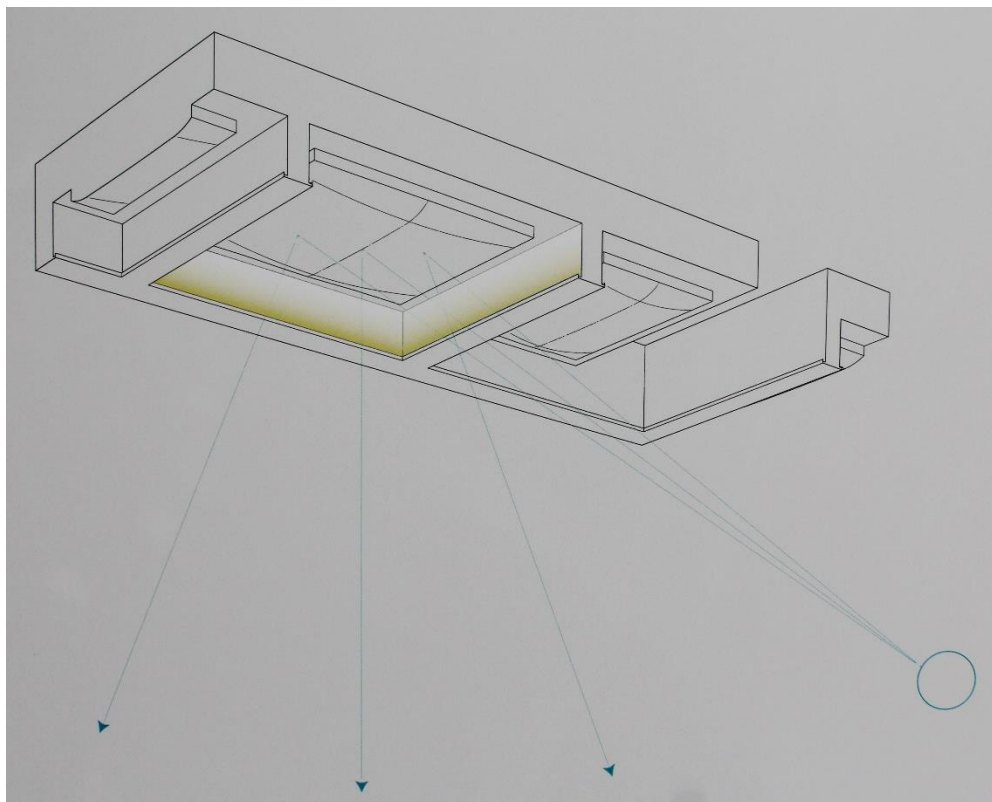
Cast Plaster Laban Panel Detail, 2014.

Paul Crosby photograph



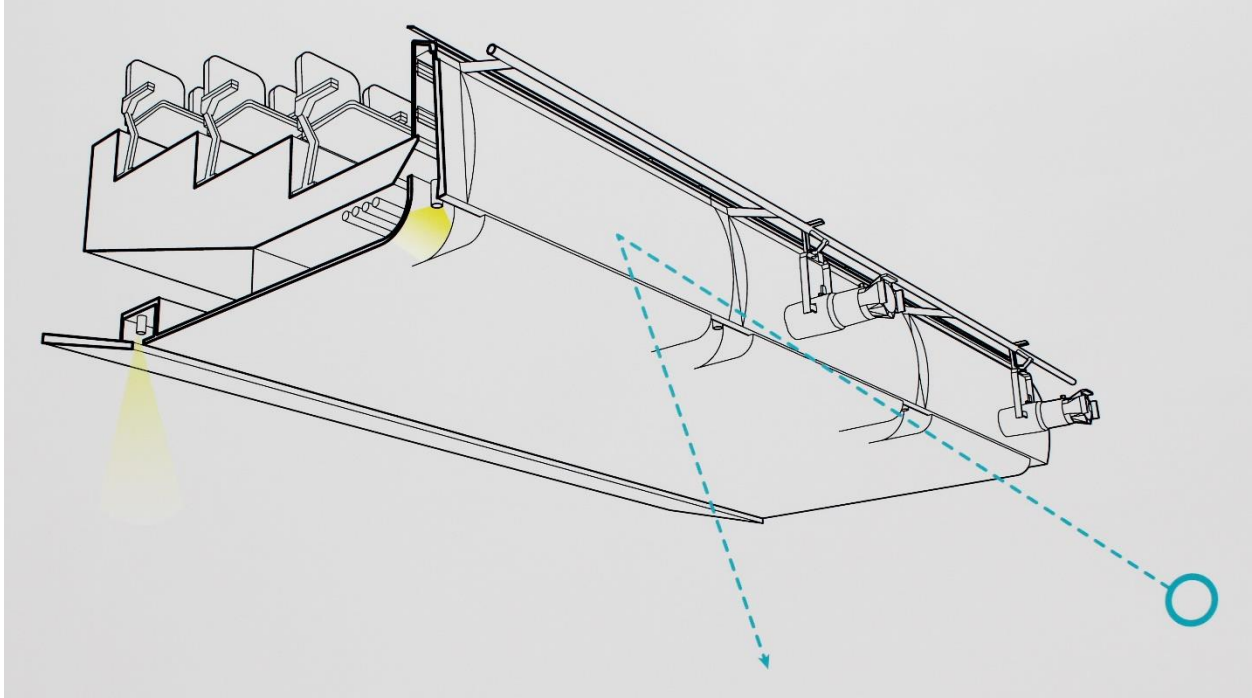
Centerline Section Perspective, 2011.

Hammel Green and Abrahamson drawing



Acoustic Dispersion Diagram at New Ceiling Coefficients, 2014.

Hammel Green and Abrahamson, Inc. drawing



Acoustic Dispersion Diagram at Balcony Fronts, 2014.

Hammel Green and Abrahamson, Inc. drawing

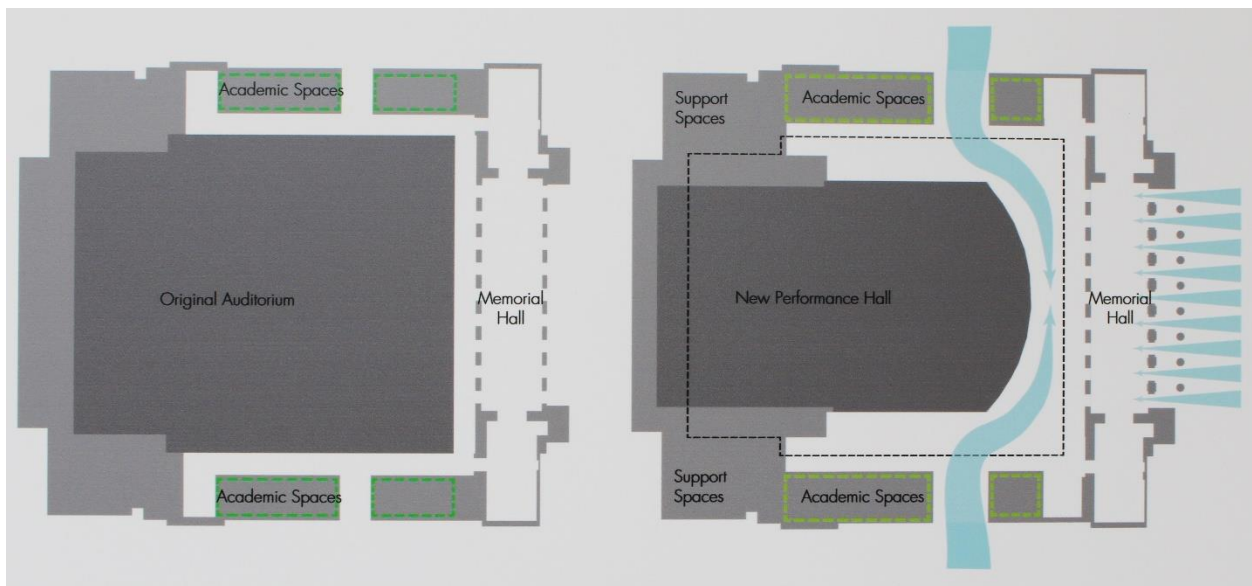


Diagram of Public Space Before and After Renovation, 2014.

Hammel, Green and Abrahamson, Inc. drawing

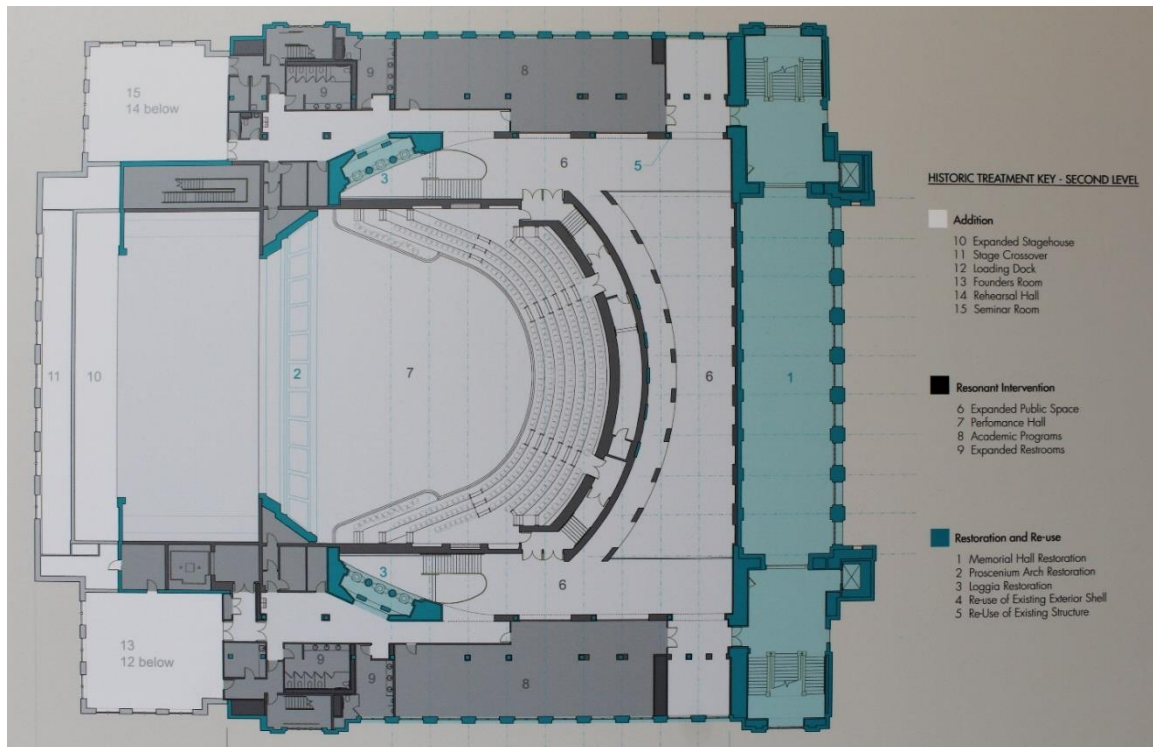


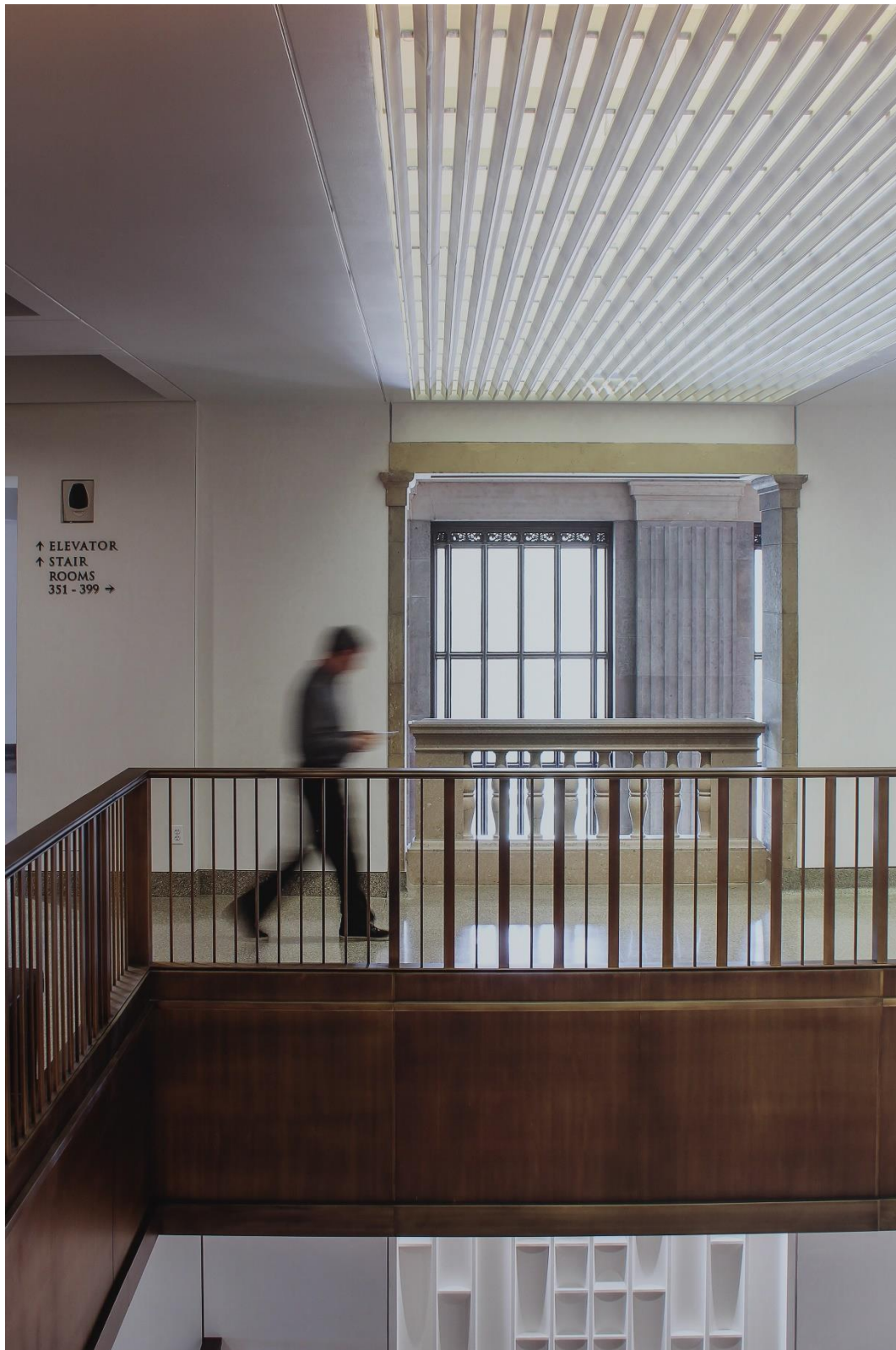
Diagram of Historic Renovation Approach, 2014.

Hammel, Green and Abrahamson, Inc. drawing



Rehearsal Hall with Dancers, 2014.

Paul Crosby photograph



Third Level Crossover, Memorial Hall Beyond, 2014.

Paul Crosby photograph



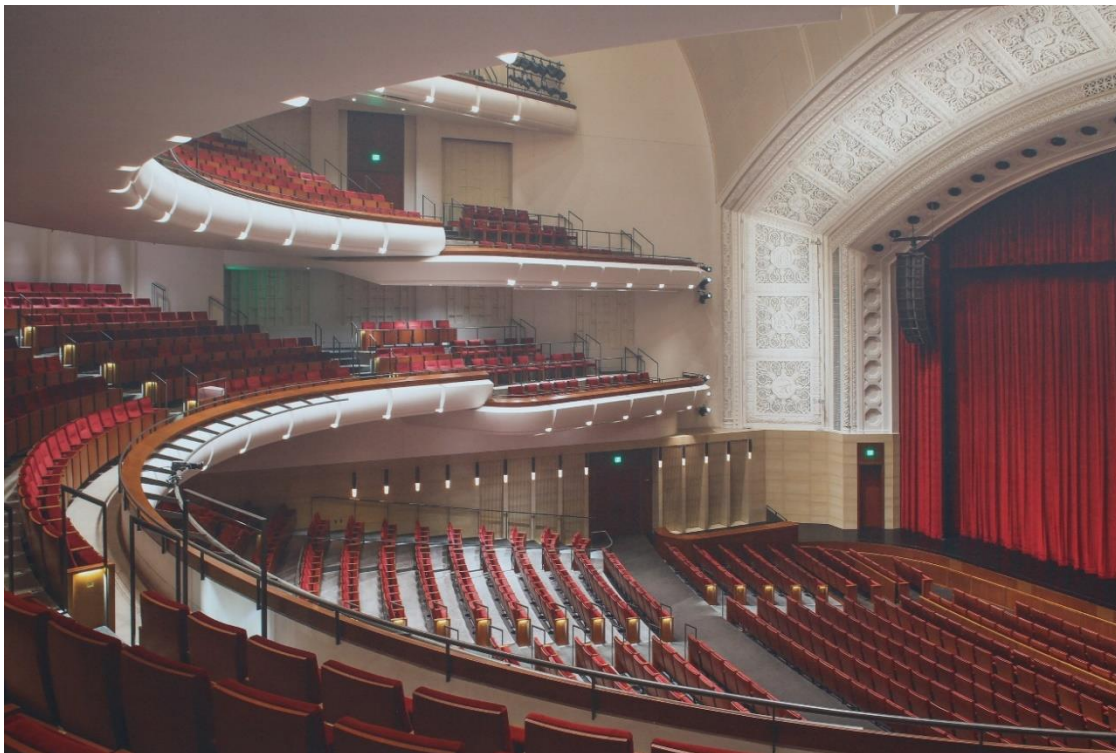
New Audience Seating, 2014.

Morgan Sheff photograph



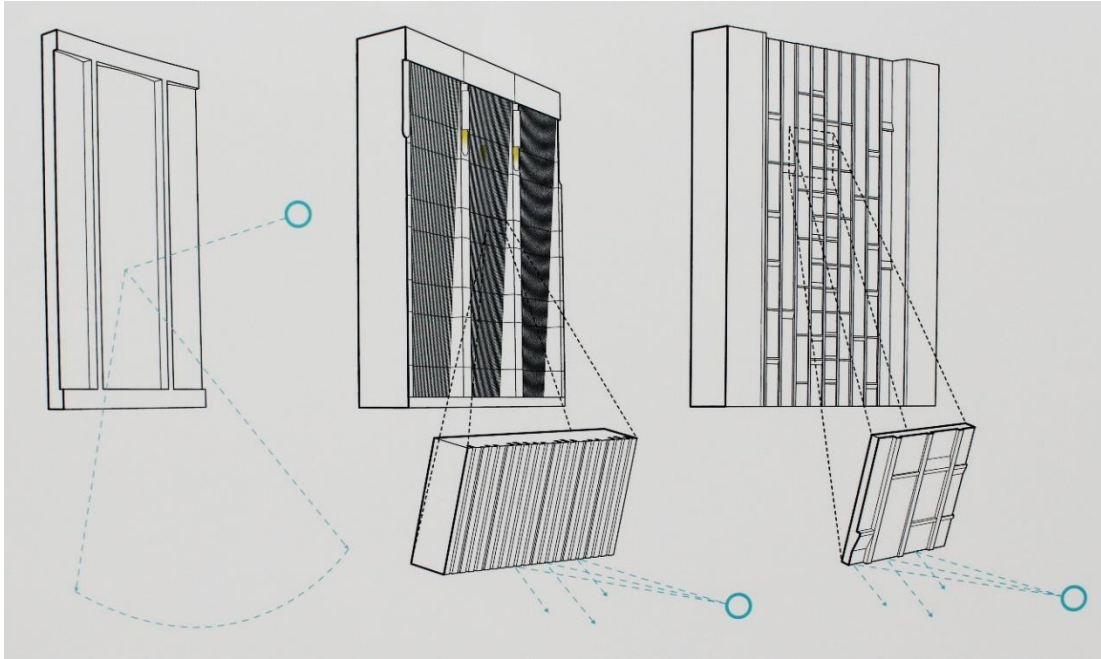
New Stage and Proscenium Arch, 2014.

Morgan Sheff photograph



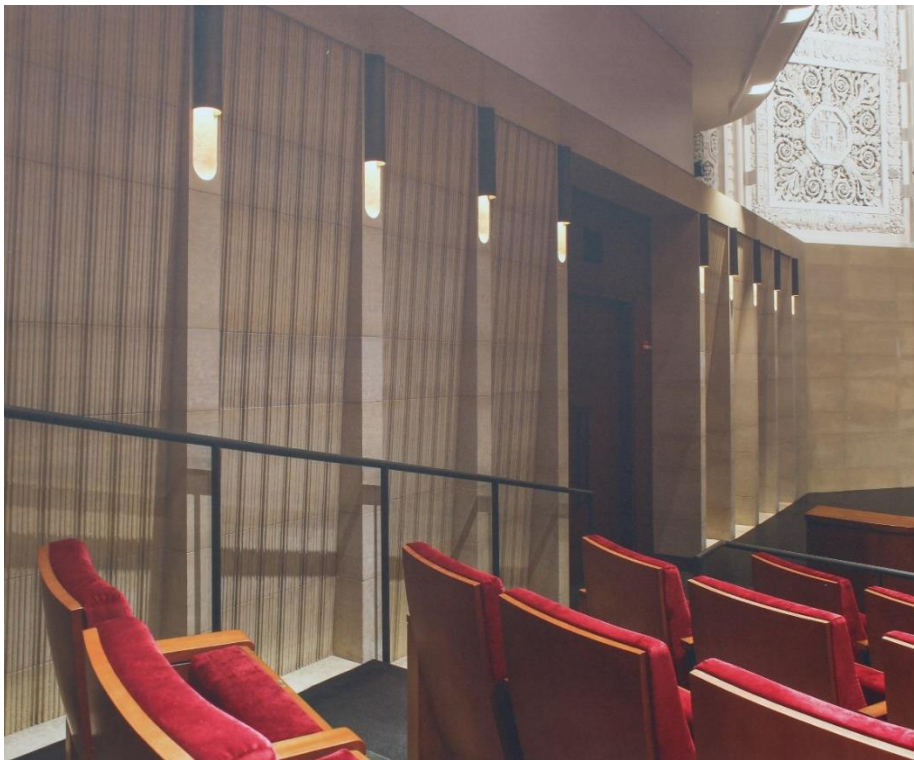
View from Presidents Circle, 2014.

Morgan Sheff photograph



Acoustic Dispersion Diagram at Wall Panels, 2014.

Hammel Green and Abrahamson, Inc. drawing



Stone Sidewall Panel Detail, 2014.

Paul Crosby photograph



Renovated Proscenium Arch Detail, 2014.

Paul Crosby photograph



Worklights Behind Proscenium Arch and Screen, 2014.

Tim Rummelhoff photograph